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— OF —

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ATLAS OF THE WORLD.

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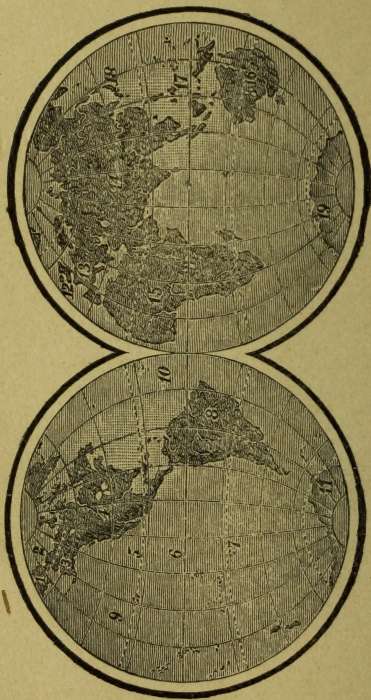
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REVISED, IMPROVED EDITION

THE NEW

CONKLIN'S

HANDY MANUAL

OF

USEFUL INFORMATION

AND

WORLD'S ATLAS

For Mechanics, Merchants, Editors, Lawyers, Printers
Doctors, Farmers, Lumbermen, Bankers, Book-
keepers, Politicians, and all classes of workers
in every department of human effort ; also
A Compilation of Facts for Reference on 2,000 Sub-
jects, being an epitome of matters Historical,
Statistical, Biographical, Political, Geo-
graphical and of General Interest

Census for 1900 Up to Date of Publication

COMPILED BY
Prof. GEO. W. CONKLIN of the Hamilton University

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CHICAGO

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1902

THE UNITED STATES FROM THE ATLANTIC TO THE PACIFIC OCEAN.



* INDICATES LOCATION OF STATE CAPITAL.

THE SCHLEY VERDICT, DEC. 13, 1901

Majority report, by Admiral Dewey and Rear Admirals Benham and Ramsay.

(Admiral Dewey, the President of the court, signed this document, but took exceptions as stated in his minority report. See next page.)

"Commodore Schley, in command of the flying squadron, should have proceeded with utmost dispatch off Cienfuegos, and should have maintained a close blockade of that port.

"He should have endeavored, on May 23, at Cienfuegos, to obtain information regarding the Spanish squadron by communicating with the insurgents at the place designated in the memorandum delivered to him at 8:15 a. m. of that date.

"He should have proceeded from Cienfuegos to Santiago de Cuba with all dispatch, and should have disposed his vessels with a view of intercepting the enemy in any attempt to pass the flying squadron.

"He should not have delayed the squadron for the Eagle.

"He should not have made the retrograde turn westward with his squadron.

"He should have promptly obeyed the Navy department's order of May 25.

"He should have endeavored to capture or destroy the Spanish vessels at anchor near the entrance of Santiago harbor on May 29 and 30.

"He did not do his utmost with the force under his command to capture or destroy the Colon and other vessels of the enemy which he attacked on May 31.

"By commencing the engagement on July 3 with the port battery and turning the Brooklyn around with port helm, Commodore Schley caused it to lose distance and position with the Spanish vessels. The turn was made toward the Texas, and caused that vessel to stop and back its engines to avoid a possible collision.

"Admiral Schley did injustice to Lieutenant Commander A. C. Hodgson in publishing only a portion of the correspondence which passed between them.

"Commodore Schley's conduct in connection with the events of the Santiago campaign prior to June 1, 1898, was characterized by vacillation, dilatoriness, and lack of enterprise.

"His official reports regarding the coal supply and the coaling facilities of the flying squadron were inaccurate and misleading.

"His conduct during the battle of July 3 was self-

possessed, and he encouraged, in his own person, his subordinate officers and men to fight courageously."

Minority report, by Admiral Dewey, President of the Court.

"In the opinion of the undersigned, the passage from Key West to Cienfuegos was made by the flying squadron with all possible dispatch, Commodore Schley having in view the importance of arriving off Cienfuegos with as much coal as possible in the ships' bunkers.

'The blockade of Cienfuegos was effective.

"Commander Schley, in permitting the British steamer Adula to enter the port of Cienfuegos, expected to obtain information concerning the Spanish squadron from it when it came out.

"The passage from Cienfuegos to a point about twenty-two miles south of Santiago was made with as much dispatch as was possible while keeping the squadron a unit.

"The blockade of Santiago was effective.

"Commodore Schley was the senior officer of our squadron off Santiago when the Spanish squadron attempted to escape on the morning of July 3, 1898. He was in absolute command and is entitled to the credit due to such commanding officer for the glorious victory which resulted in the total destruction of the Spanish ships.

The Court of Inquiry recommended that "in view of the length of time which has elapsed since the occurrence of the events of the Santiago campaign, no further proceedings be had in the premises." On Dec. 21, 1901 Secretary Long approved of the majority report, and of this recommendation, refusing to give further hearing to Schley, Sampson, or others in this matter.

SKETCH OF THE LIFE OF WILLIAM MCKINLEY

Twenty-fifth President of the United States.

Born Jan. 22, 1843, at Niles, Trumbull Co., O. Ancestry. Scotch-Irish. Joined M. E. Church 1858. Attended public school and Union Seminary, Poland, O., till 1858. Taught school, 1859. Entered Allegheny College 1860. Enlisted as a private in Co. E, 23d Ohio V. I., June 11, 1861. Promoted to sergeant April 15, 1862; to second lieutenant Sept. 23, 1862; to first lieutenant Feb. 7, 1863; to captain July 25, 1864. Brevetted major March 13, 1865. Mustered out July 26, 1865. Admitted to the bar at Canton, O., 1867. Elected Prosecuting Attorney 1869. Married Miss Ida Saxon, Jan. 25, 1871. Elected to Congress seven times, 1876-1888. Passage of McKinley Tariff bill, October, 1890. Defeated for re-election to Congress in 1890. Elected Governor of Ohio,

November, 1891, and re-elected by enormous majority 1893. Nominated for President, at St. Louis, 1896, receiving 661 votes out of 905, on the first ballot, and elected in November by a large popular and electoral majority. Inaugurated Mar. 4, 1897. In extra session of Congress signed the Dingley tariff bill, July, 1897. Sent first message on Cuba to Congress, Dec. 6, 1897. Demanded that Spain withdraw from Cuba, Mar. 30, 1898. Signed gold standard bill, March, 1900. Stated American policy as to China July 10, 1900. Re-elected President by largely increased majority, Nov. 6, 1900. Made famous reciprocity speech, at Buffalo, Sept. 5, 1901. Shot by Leon F. Czolgosz, Sept. 6, 1901, in the Temple of Music, at the Pan-American Exposition. Died at 2:15 a. m. Sept. 14, 1901, 58 years, 7 months and 16 days old.

TRANSATLANTIC WIRELESS TELEGRAPHY.

The first year of the twentieth century brought to the astonished world a new invention, the enormous possibilities and consequences of which even the most fertile imagination cannot realize at present.

A young Italian electrical scientist, Marconi, had, for several years, experimented with wireless telegraphy. He had succeeded in telegraphing without wires from the coast to a ship miles off and had sent an electric message from France to England across the channel where it is about twenty miles wide.

Mr. Marconi was encouraged by the governments of Europe, and a company was formed which furnishes Mr. Marconi with the necessary funds to carry his experiments to a successful issue. This company decided in 1900 to build two very large stations at the cost of \$70,000 each, one at Poldhu, near the Lizard, in Cornwall, and the other at Cape Cod, Mass. Immense machinery was put up, and twenty poles 210 feet high to support the vertical wires that served as senders and receivers. The whole apparatus is of necessity most delicately and sensitively adjusted and violent storms practically destroyed the whole station in Cornwall.

The invention is still in the experimental stage; there has been no opportunity or time, as yet, to improve the apparatus so as to decrease the danger from wind and weather. It is all the more wonderful, therefore, that with his imperfect instruments, Marconi succeeded, Dec. 11, 1901, on Signal Hill, near St. John, Newfoundland, in receiving a prearranged signal from Poldhu across 1700 miles of ocean. The signal was repeated often and conformed so exactly to the detailed plan, that an error is excluded. It was received by means of a kite elevated with an aerial wire.

The STATUS of PORTO RICO and the PHILIPPINES.

On Dec. 2, 1901, the U. S. Supreme Court handed down a decision, by which among others the following point was settled :

"Porto Rico and the Philippines became domestic territories immediately upon the ratification of the treaty of peace (at Paris, France, Dec. 10. 1898.) The constitution followed the flag to all of the islands."

THE PHILIPPINES TARIFF.

The article chiefly imported into the U. S. from the Philippine Islands, is Manila hemp. It constitutes about fifty-nine sixtieths of the total imports and is on the free list. So, the Dingley tariff may remain in force as against the Philippine Islands without hardship to any one.

For the Islands the Philippines commission framed a tariff that is splendidly adopted to the needs of the people there without showing any favor to Americans over any other nations. It imposes the same duties on goods no matter from what country they are imported, thus adhering to the famous "open-door policy."

Merchandise can be transported from one American port to another only in American ships. This restriction does not apply to the transportation between the U. S. and the Philippines.

The revenues derived from custom duties in the Philippines, and the duties paid in this country on goods imported from the islands, shall all be paid into the treasury of the islands, to be expended for their benefit.

THE HAY-PAUNCEFOTE TREATY.

Was ratified by the U. S. Senate on Dec. 16, 1901. It frees the U. S. from all burdensome obligations of the Clayton-Bulwer treaty, ratified July 4, 1850, in which England and the U. S. both guaranteed the neutrality of a proposed ship-canal across Central-America.

By the new treaty the U. S. alone acquires full control and guarantees neutrality to all the nations. The former restriction that "no fortifications shall be erected commanding the canal or the waters adjacent" is omitted. In the old clause: "The canal shall be free and open [in time of war as in time of peace] to the vessels of commerce and of war of all nations," the bracketed words have been omitted.

There is no obstacle now in the way of an Isthmian Canal built and controlled exclusively by the United States, either over the Nicaragua or the Panama route.

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USEFUL INFORMATION

THE BIBLES OF THE WORLD.

The chief sacred books of the world are the Scriptures of the Christians, the Tripitake of the Southern Buddhists, the Five Kings of the Chinese, the three Vedas of the Hindoos, the Koran of the Mohammedans, and the Zendavesta of the Parsees.

The Koran is the most recent, having been written in the seventh century after Christ. It contains many excerpts from the Old and New Testaments and the Talmud.

The Tripitake contains sublime morals and pure aspirations. The author lived and died in the sixth century before Christ.

The Five Kings contain wise sayings on the duties of life. The word "king" in the Chinese language means web of cloth. From this it is presumed that they were originally written on five rolls of cloth. They were written by a number of wise men some time not earlier than the eleventh century before Christ.

The Vedas can not be proven to antedate the twelfth century before the Christian era.

The Zendavesta is regarded among scholars as being the greatest and most learned of all sacred writings, excepting the Christian Bible. It was written by Zoroaster in the twelfth century before Christ.

Moses wrote the Pentateuch at least 1,500 years before Christ: therefore, that portion of the Christian Bible is at least 300 years older than any other sacred writings.

The Eddas, a semi-sacred work of the Scandinavians, was first given to the world in the 14th century.

There are estimated to be about 420,000,000 people living under Christian laws; 340,000,000 Buddhists; 210,000,000 Mohammedans; 15,000,000 ruled by the Zendavesta; 150,000,000 under the Five Kings; 175,000,000 under the Vedas of the Hindoos.

Table Showing Difference of Time in Various Parts of the World When It Is Noon at Washington, D. C.

Alaska.....	7:23 a.m.	Louisville, Ky..	11:26 a.m.
Albany.....	12:13 p.m.	Macon, Ga.....	11:37 a.m.
Amsterdam, Holland..	2:58 p.m.	Melbourne, Aus.....	2:48 a.m.
Angra, India.....	3:19 p.m.	Memphis, Tenn.....	11:08 a.m.
Atchison, Kas.....	10:47 a.m.	Meridian, Miss.....	11:14 a.m.
Athens, Greece.....	6:43 p.m.	Mexico.....	10:32 a.m.
Atlanta, Ga.....	11:40 a.m.	Milwaukee.....	11:16 a.m.
Augusta, Me.....	12:29 p.m.	Minneapolis, Minn....	10:55 a.m.
Baltimore.....	12:02 p.m.	Mobile, Ala.....	11:16 a.m.
Bath, Me.....	12:29 p.m.	Monoton, N. B.....	12:48 p.m.
Berlin, Germany.....	6:02 p.m.	Montreal, Canada.....	12:14 p.m.
Bombay, India.....	10:00 p.m.	Moscow, Russia.....	7:38 p.m.
Boston.....	12:24 p.m.	Nashville, Tenn.....	11:21 a.m.
Brussels, Belgium....	5:25 p.m.	New Orleans.....	11:08 a.m.
Buffalo, N. Y.....	11:52 a.m.	New York.....	12:12 p.m.
Cape Town, Africa....	6:22 p.m.	Omaha, Neb.....	10:44 a.m.
Cairo, Egypt.....	7:13 p.m.	Ottawa, Canada.....	12:05 p.m.
Calcutta, India.....	11:01 p.m.	Panama, C. A.....	11:50 a.m.
Canton, China.....	12:41 a.m.	Paris, France.....	5:17 p.m.
Cambridge, Mass.....	12:29 p.m.	Pensacola, Fla.....	11:19 a.m.
Charleston, S. C.....	11:43 a.m.	Philadelphia.....	12:07 p.m.
Chicago.....	11:17 a.m.	Pittsburg, Pa.....	11:48 a.m.
Cincinnati.....	11:30 a.m.	Port Huron, Mich.....	11:34 a.m.
Cleveland, O.....	11:41 a.m.	Portland, Me.....	12:27 p.m.
Columbia, S. C.....	11:44 a.m.	Portland, Ore.....	8:56 a.m.
Constantinople.....	7:04 p.m.	Portsmouth, Va.....	12:03 p.m.
Danville, Va.....	11:50 a.m.	Providence, R. I.....	12:22 p.m.
Denver, Colo.....	10:08 a.m.	Quebec, Canada.....	12:23 p.m.
Des Moines, Iowa.....	10:53 a.m.	Quincy, Ill.....	11:07 a.m.
Detroit, Mich.....	11:36 a.m.	Raleigh, N. C.....	11:50 a.m.
Dubuque, Iowa.....	11:05 a.m.	Richmond, Va.....	11:58 a.m.
Dublin, Ireland.....	4:43 p.m.	Rio Janeiro, Brazil..	2:15 p.m.
Edinburgh, Scotland..	4:55 p.m.	Rome, Italy.....	5:58 p.m.
Galveston, Texas.....	10:49 a.m.	Rome, Ga.....	11:32 a.m.
Halifax, N. S.....	12:54 p.m.	San Francisco.....	8:58 a.m.
Hamilton, Ont.....	11:49 a.m.	Salt Lake City.....	9:40 a.m.
Hannibal, Mo.....	11:07 a.m.	Savannah, Ga.....	11:44 a.m.
Hartford, Conn.....	12:17 p.m.	Selma, Ala.....	11:20 a.m.
Havana, Cuba.....	11:38 a.m.	Sioux City, Iowa.....	10:42 a.m.
Houston, Texas.....	10:44 a.m.	St. John, N. B.....	12:44 p.m.
Indianapolis.....	11:24 a.m.	St. Johns', N. F.....	1:37 p.m.
Jacksonville, Ill.....	11:07 a.m.	St. Joseph, Mo.....	10:50 a.m.
Jefferson City, Mo....	10:59 a.m.	St. Louis.....	11:07 a.m.
Kalama, Wash.....	8:58 a.m.	St. Paul, Minn.....	10:56 a.m.
Kansas City, Mo.....	10:49 a.m.	Terre Haute, Ind.....	11:18 a.m.
Key West, Fla.....	11:41 a.m.	Toronto, Canada.....	11:51 a.m.
Knoxville, Tenn.....	11:32 a.m.	Vera Cruz, Mex.....	10:43 a.m.
Laramie, Wyo.....	10:12 a.m.	Vicksburg, Miss.....	11:05 a.m.
Leavenworth, Kas....	10:49 a.m.	Virginia City, Nev....	9:40 a.m.
Lisbon, Portugal.....	4:31 p.m.	Wheeling, W. Va.....	11:45 a.m.
Lincoln, Neb.....	10:41 a.m.	Wilmington, N. C.....	11:58 a.m.
Little Rock, Ark.....	10:59 a.m.	Yankton, S. D.....	10:38 a.m.
London, England.....	5:08 p.m.		

HOW TO TELL ANY PERSON'S AGE.

There is a good deal of amusement in the following magical table of figures. It will enable you to tell how old the young ladies are. Just hand this table to a young lady, and request her to tell you in which column or columns her age is contained, and add together the figures at the top of the columns in which her age is found, and you have the great secret. Thus, suppose her age to be 17, you will find that number in the first and fifth columns; add the first figures of these two columns. Here is the magic table:

1	2	4	8	16	32
3	3	5	9	17	33
5	6	6	10	18	34
7	7	7	11	19	35
9	10	12	12	20	36
11	11	13	13	21	37
13	14	14	14	22	38
15	15	15	15	23	39
17	18	20	24	24	40
19	19	21	25	25	41
21	22	22	26	26	42
23	23	23	27	27	43
25	26	28	28	28	44
27	27	29	29	29	45
29	30	30	30	30	46
31	31	31	31	31	47
33	34	36	40	48	48
35	35	37	41	49	49
37	38	38	42	50	50
39	39	39	43	51	51
41	42	44	44	52	52
43	43	45	45	53	53
45	46	46	46	54	54
47	47	47	47	55	55
49	50	52	56	56	56
51	51	53	57	57	57
53	54	54	58	58	58
55	55	55	59	59	59
57	58	60	60	60	60
59	59	61	61	61	61
61	62	62	62	62	62
63	63	63	63	63	63

Asphalt, or Asphaltum.—A bituminous substance, found in the tertiary strata in different parts of the earth, evidently produced from coal by the action of heat. It is much used as a pavement when mixed with certain proportions of lime, gravel or pounded stone. Coal-tar is artificial asphalt.

RIVERS ON THE SURFACE OF THE GLOBE 1,000 MILES LONG AND OVER.

Name of River.	Miles.	Country in Which Located.	Where It Rises.	Where It Empties.
Amazon.....	3,944.	Peru, Ecuador and Brazil.....	Andes Mountains.....	Atlantic Ocean.
Amoor.....	2,200.	Eastern Asia.....	Irkutsk—Mongolia.....	Sea of Okhotsk.
Araguay.....	1,300.	Brazil.....	Latitude, 19° S.....	Amazon River.
Arkansas.....	2,170.	Utah, Indian Ter. Colorado.....	Rocky Mountains.....	Mississippi River.
Brahmaputra.....	1,500.	Asia.....	Upper Assam.....	Bay of Bengal.
Chingua.....	1,150.	Brazil.....	Diamanti Mountains.....	Amazon River.
Colorado.....	2,000.	Utah, Wyoming, California.....	Southeast Utah.....	Gulf of California.
Columbia.....	1,400.	{ Oregon, Washington..... British North America.....	{ Rocky Mountains.....	Pacific Ocean.
Congo.....	1,700.	Congo and Loango, Africa.....	Interior Africa.....	Atlantic Ocean.
Danube.....	1,750.	Central Europe.....	Black Forest, Baden.....	Black Sea.
Dnieper.....	1,200.	Russia.....	Government of Smolensk.....	Black Sea.
Euphrates.....	1,600.	Western Asia.....	Armenia.....	Persian Gulf.
Ganges.....	1,557.	Hindustan.....	Himalaya Mountains.....	Bay of Bengal.
Hoang-Ho.....	2,500.	China.....	Thibet.....	Yellow Sea.
Indus.....	1,960.	Asia.....	Mt. Kailas, Thibet.....	Arabian Sen.
Irrawaddy.....	1,200.	Farther India.....	British Burmah.....	Bay of Bengal.
Irish.....	2,200.	North Asia.....	Altai Mountains.....	Obi River.
Japura.....	1,000.	Brazil and Colombia.....	United States of Colombia.....	Amazon River.
Kama.....	1,200.	Russia.....	Government of Viatka.....	Volga River.
Kiou-long kiang.....	1,200.	Thibet, China, etc.....	Thibet.....	China Sea.
Kuskogum.....	1,500.	Alaska.....	Alaska.....	Pacific Ocean.
Kwicksak.....	1,800.	Alaska.....	Rocky Mountains.....	Bering Strait.
Lena.....	2,500.	Siberia.....	Near Irkutsk.....	Arctic Ocean.
Mackenzie.....	1,700.	British North America.....	Great Slave Lake.....	Arctic Ocean.
Madeira.....	2,000.	South America.....	Bolivia.....	Amazon River.
Mississippi.....	2,616.	North America.....	Itaska Lake, Minnesota.....	Gulf of Mexico.
Missouri.....	3,096.	United States.....	Rocky Mountains.....	Mississippi River.
Murray.....	1,000.	Victoria, Australia.....	Warragong Mountains.....	Lake Victoria.

Muy Kuang.....	1,300..	China.....	Thibet.....	China Sea.
Niger.....	2,300..	Central Africa.....	Western Coast.....	Gulf of Berlen.
Nile.....	3,500..	Northeast Africa.....	{ Blue River and White River, Lat. 15° 34' N., Long. 32° 30' 58" E..... }	{ Mediterranean Sea.
Obi.....	2,700..	Asiatic Russia.....	Little Altai Mountains.....	Gulf of Obi.
Orange.....	1,000..	South Africa.....	Near Lat. 29° S., Long. 30° E.....	Atlantic Ocean.
Orinoco.....	1,500..	Venezuela.....	Sierra de Parima.....	Atlantic Ocean.
Paraguay.....	1,800..	Paraguay and Brazil.....	Matto Grosso, Brazil.....	Parana River.
Parana.....	1,860..	Uruguay.....	Brazilian Mountains.....	LaPlatte River.
Pilcomayo or.....	{ 1,000..	Bolivia and Paraguay.....	Bolivia.....	Paraguay River.
Plataqui.....	{ 1,200..	Wyoming and Colorado.....	{ Wind Mountains, Wyoming, Park Mountains, Colorado. }	{ Missouri River.
Red River and.....	{ 2,100..	Texas, Indian Territory.....	{ Northwestern Texas..... }	{ Mississippi River.
Branches.....	{ 1,800..	Arkansas, Louisiana.....	{ Rocky Mountains..... }	{ Gulf of Mexico.
Rio Grande.....	1,200..	United States and Mexico.....	Colombia Hills.....	Amazon River.
Rio Negro.....	1,000..	Manchuria.....	Mongolia.....	Sea of Okhotsk.
Sayhalien.....	1,400..	Brazil.....	Sierra Veretates.....	Atlantic Ocean.
San Francisco.....	1,000..	British North America.....	Rocky Mountains.....	Lake Winnipeg.
Saskatchewan.....	1,000..	Senegambia.....	Mount Cooro.....	Atlantic Ocean.
Senegal.....	1,800..	Persia.....	Euphrates and Tigris.....	Persian Gulf.
Shat-el-Arab.....	1,150..	Turkey and Persia.....	Armenian Mountains.....	Persian Gulf.
Tigris.....	1,300..	Brazil.....	Cordilleras Mountains.....	Para River.
Tocantines.....	1,200..	Peru.....	Near Cuzco.....	Amazon River.
Ucayali.....	1,800..	Russia.....	Government of Mensk.....	Caspian Sea.
Ural.....	1,020..	Brazil and Uruguay.....	Santa Catherine, Brazil.....	Parana River.
Uruguay.....	2,400..	Russia.....	Valdai Mountains.....	Caspian Sea.
Volga.....	2,500..	China.....	East Thibet.....	Yellow Sea.
Yang-tse-Kiang.....	1,000..	Wyoming.....	Yellowstone Lake, Wyoming.....	Missouri River.
Yellowstone.....	2,300..	Siberia.....	Mongolia.....	Arctic Ocean.
Yenisei.....	1,850..	Alaska.....	British Colombia.....	Pacific Ocean.
Yukon.....	1,800..	Eastern Africa.....	About Lat. 11° S. Long. 23° E.....	Indian Ocean.
Zambesi.....				



UNITED STATES CAPITOL, WASHINGTON, D. C.



NEW YORK STATE CAPITOL, ALBANY, N. Y.



STATE CAPITOL, SPRINGFIELD, ILL.

Parliamentary Rules and Usages.

The following are the complete rules, in a plain and compact form, for conducting a public meeting.

Quorum.—A quorum is a sufficient number of the members of an association to legally transact business. Unless a quorum is present no business is in order, except to adjourn. A majority of the members constitutes a natural quorum, but the by-laws of the association may prescribe a smaller number.

The Chairman.—It is the duty of the chairman to open the meeting at the time fixed upon, by taking the chair, calling the house to order, to announce the business before the house in the order in which it is to be acted upon; to receive and submit all motions; to put to vote all questions which are regularly moved, or which necessarily arise in the course of proceedings, and to announce the result; to restrain every one, when engaged in debate, within the rules of order; to enforce the observance of order and decorum; to appoint committees; to authenticate by his signature, when necessary, all the acts and proceedings of the house, and generally to declare its will.

He may speak to points of order in preference to others; shall decide all questions of order, and if the house is evenly divided he may give the casting vote, in doing which he may, if he pleases, give his reasons.

The Clerk.—It is the duty of the clerk or secretary to keep correct minutes of the proceedings of the house; to read all papers when ordered, and for this purpose he should always rise; to call the roll, and state the answer when a vote is taken by yeas and nays; to have the custody of all papers and documents, and to authenticate the acts and proceedings of the house by his signature.

Committees.—Standing committees sit permanently; special committees perform only some particular duty, when they are discharged. The person first-named is usually regarded as chairman, but this is only a matter of courtesy; every committee has a right to select its own chairman. Custom, however, has practically taken away this right, and it is considered bad form to elect any other person than the first-named as chairman. The mover of a motion to commit, should be placed on the committee and first-named, except where the matter committed concerns him personally. In the appointment of the committee no person directly opposed to the measure committed should be named, and when any person who is thus opposed to same, hears himself named of its committee he should ask to be excused.

The chair appoints all committees. Committees do not adjourn, but, when they have concluded their deliberations, should rise and report. The report should be presented by the chairman. When the report is received the committee is dissolved and cannot act further without new power.

Any committee required or entitled to report upon a subject referred to them may make a majority and minority report, while

any member or such committee dissenting in whole or in part, from either the conclusion or the reasoning of both the majority and minority, may also present a statement of his reasons for such dissent, which should be received in connection with the reports.

The committee of the whole is an expedient to simplify the business of legislative bodies. No record is made of its proceedings. The presiding officer puts the question, and, if same is carried, appoints some person as chairman and then vacates the chair.

Motions.—Propositions made to a deliberative assembly are called *motions*; when the proposition is put to vote it is called the *question*. A motion cannot be entertained or the question put, until the same has been seconded. After this it becomes the property of the house, and cannot be withdrawn except by leave. It must be in writing whenever the house or presiding officer require it, and must be read when any person demands it for information.

An exception to the rule requiring a second to a motion is made in cases when the proposition is to proceed with or to execute an order of the house; as where it is moved to proceed with an order of the day, or where a call is made for the enforcement of some order relating to the observance of decorum.

No motion can be made while a speaker has the floor, nor while another motion is pending, except it be a question of privilege.

Amendments—A motion may be amended by inserting or adding words, or by striking out words, or by striking out and inserting words. An amendment takes precedence of the original question and must be first decided. So, too, an amendment to an amendment must be decided before the amendment. A motion may be made to amend, after which a motion will be to amend the amendment, but this is the full limit of the rule by which one motion may be put upon another. A motion to amend the second amendment is not in order.

Questions of privilege cannot be amended, except that a motion to postpone can be amended as to time.

The Question.—The question is first to be put on the affirmative and then on the negative side, the vote in most cases being by oral response. If there are doubts as to the voice of the majority, any one may call for a division. In all cases where the house is equally divided the question is lost, unless the presiding officer affirms it by a casting vote.

When a division is had, those in the affirmative on the question should first rise and be counted, or, if there still be a doubt, or a *count* be called for, the chairman should appoint two tellers, one from each side, to make the count and report the same to the chairman, who should then declare the same to the house.

In small matters of routine business or trifling importance, such as receiving reports, withdrawing motions, etc., the presiding officer may suppose the consent of the house where no objection is expressed, and need not give them the trouble of putting the question formally.

A question should always be stated by the chair before it is put, after which it is open to debate. Questions may be stated by the chair while sitting, but he should always rise to put a question,

and should use substantially this form: "As many as are of the opinion that (as the question may be) will say aye;" and, after the affirmative voice is expressed, "As many as are of a contrary opinion, will say no."

After a question has been put it is not debatable, but after the affirmative is put any person who has not spoken before to the question may rise and speak before the negative is put.

Division of Question.—Any person may call for the division of a question if it comprehend propositions, in substance so distinct, that, one being taken away, a substantive proposition shall remain for decision.

When a question is divided, after the question on the first part, the second is open to debate and amendment.

Privileged Questions.—When a question is under debate, no motion shall be received, except to adjourn; to lay on the table; for the previous question; to postpone to a day certain; to commit; to amend; to postpone indefinitely. These motions have precedence in the order in which they stand arranged, and are called privileged questions.

A motion to adjourn is always in order and takes precedence of all other motions, and an order of the day takes the place of all questions except adjournment.

When a matter has been laid on the table it may be taken up at any time afterward and considered, but not at the same meeting or session at which it was tabled. Frequently this motion is made to finally dispose of the matter, and it always has this effect when no motion is afterward made to take it up. The proper motion for proceeding with a matter that has been ordered to be on the table, is, that the house do now proceed to consider that matter, although it would be proper to move that the matter be taken up for consideration.

There are several questions which, being incidental to every one, will take the place of every one, privileged or not; as, a question of order arising out of any other question must be decided before that question.

A motion for indefinite postponement is generally resorted to in order to suppress a question or prevent its coming to vote.

Previous Question.—When any question is before the house any member may move that the question (called the main question) be now put, or, as it is usually termed, may move the previous question. If it pass in the affirmative, then the main question is to be put immediately, and no further debate is permitted.

The previous question being moved and seconded, the question from the chair should be, "Shall the main question be now put?" If the nays prevail the main question remains as the question before the house, in the same stage of proceedings as before the previous question was moved.

Equivalent Questions.—Where questions are perfectly equivalent, so that the negative of the one amounts to the affirmative of the other, and leaves no other alternative, the decision of the one necessarily concludes the other. Thus the negative of striking out

amounts to the affirmative of agreeing; and, therefore, to put a question on agreeing after that of striking out, would be to put the same question in effect twice over.

Questions of Order.—It is the duty of the chairman to decide all questions of order whenever raised. Upon such questions no debate or discussion is in order, but if the decision is not satisfactory any one may object to it and appeal to the house. On appeal being taken, the question should be: "Shall the decision of the chair stand as the judgment of the house?" Whereupon the question may be debated and discussed the same as any other question.

Commitment.—Any measure may be referred to a committee, on motion. This motion stands in the same degree with the previous question and postponement, and, if first made, takes precedence of them. A motion to commit may be amended by the substitution of one kind of committee for another, or by enlarging or diminishing the number of the members of the committee, as originally proposed, or by instructions to the committee.

After a measure has been committed and reported, it should not, in an ordinary course, be recommitted, but in cases of importance, and for special reasons, it is sometimes recommitted, and usually to the same committee.

Reconsideration.—When a motion or question shall have been determined, either in the affirmative or negative, it is always in order for any one who voted with the majority, or in case the vote was equally divided, for one who voted in the negative, to move for a reconsideration thereof. Such motion must be made at the same meeting at which the former vote was taken. A motion to reconsider, being put and lost, cannot be renewed.

Undebatable Motions.—A motion to adjourn; to lay on the table, and a call for the previous question, must be decided without debate. And all incidental questions of order, arising after a motion is made for either of the foregoing questions, must be decided, whether on appeal or otherwise, without debate.

Order in Debate.—When a person means to speak, he is to stand up in his place, uncovered, and address himself to the chair, who calls him by name, that all may take notice who it is that speaks. A person who is indisposed may be indulged to speak sitting.

When a person rises to speak, no question is to be put, but he is to be heard undisturbed, unless overruled.

If two or more rise to speak nearly together, the chair determines who was first up and calls him by name, whereupon he proceeds, unless he voluntarily sits down and yields the floor to the other.

No one may speak more than twice to the same question without the consent of the house, except merely to explain himself in some material part of his speech, or to the manner of the words in question, keeping himself to that only and not going the merits of it.

If the chairman rises to speak, the person standing must sit down, that the chair may be first heard.

No one is to speak impertinently, or beside the question, or to use indecent language against the proceedings of the house. Nor should a person in speaking, mention another then present, by his name, but should describe by his seat, or as "the gentleman who spoke last," or, "on the other side of the question," etc.

Any one when called to order by another or by the chair, must sit down, and not proceed without leave until the question of order shall have been decided by the chair.

While the presiding officer is addressing the house or putting a question, no one should cross the floor or leave the room; nor while another is speaking, walk between him and the chair.

Adjournment.—A motion to adjourn is not susceptible of amendment. If it is desirable to adjourn to any particular place or time, this may be accomplished by a previous resolution to that effect.

FRATERNAL ORGANIZATIONS.

Odd Fellows	1,025,073	Order of United American Mechanics.....	49,189
Freemasons.....	896,830	Catholic Benevolent Legion.....	44,000
Modern Woodmen of America.....	547,625	Ancient Order of Foresters.....	38,098
Knights of Pythias....	492,506	Tribe of Ben Hur.....	36,429
Ancient Order of United Workmen....	410,000	Sons of Temperance...	34,614
Improved Order of Red Men.....	236,702	Independent Order of B'nai B'rith.....	31,750
Knights of the Macca-bees.....	227,936	New England Order of Protection.....	29,688
Royal Arcanum.....	205,628	Knights of Malta.....	27,000
Junior Order of United American Mechanics	183,508	Catholic Knights of America.....	23,200
Foresters of America..	175,569	United Order of Pilgrim Fathers..	22,901
Independent Order of Foresters.....	170,000	Royal Templars of Temperance.....	22,718
Woodmen of the World	114,643	Brith Abraham order..	19,487
Ancient Order of Hibernians of America....	104,869	Order of Chosen Friends.....	17,533
Benevolent and Protective Order of Elks...	75,000	United Ancient Order of Druids.....	16,782
Knights of the Golden Eagle.....	70,000	Irish Catholic Benevolent Union	14,095
Knights of Honor.....	62,173	American Legion of Honor.....	13,107
Ladies' Catholic Benevolent Association....	59,821	Smaller organizations not reported....	54,913
National Union.....	58,000		
Improved Order of Heptasaphs.....	55,668		
Knights and Ladies of Honor.....	53,000		
		Total.....	5,722,016

MINERAL PRODUCTS OF THE UNITED STATES.

The 1890 census furnishes the following data concerning this important branch of public wealth. It divides mineral products into two classes.

Metallic Products (11 different metals). Value extracted in 1889: \$269,590,487; iron counting the highest (\$120,000,000), and platinum the lowest (\$2,000), with 66 million worth of silver and 32 million worth of gold.

Non-Metallic Mineral Products (44 different substances). Value extracted in 1889: \$307,640,175, headed by coal (bituminous for 94 millions; anthracite, 66 millions; total, \$160,000,000), followed by lime, 33 millions; petroleum, 27 millions, and natural gas, 21 millions. Then come cement, 5 millions; salt, 4 millions, etc., down to lithographic stones, value \$243.

For the preceding ten years (1880-89 inclusive) we find the following totals:

Metallic Products.....	\$2,165,000,310
Non-Metallic Minerals.....	2,461,843,320
Unspecified Minerals.....	60,500,000

Grand Total.....\$4,687,343,630
for ten years' production.

The Total Colored Population, as returned under the census of 1890, is 7,638,360. Of this number 7,470,040 are persons of African descent, 107,475 are Chinese, 2,039 are Japanese, and 58,806 are civilized Indians.

Considering persons of African descent, it is seen that there has been an increase, during the decade from 1880 to 1890, of 889,247, or 13.51 per cent, as against an increase, during the decade from 1870 to 1880, of 1,700,784, or 34.85 per cent. The abnormal increase of the colored population of the South, during the decade ending in 1880, led to the popular belief that the negroes were increasing at a much greater rate than the white population. The last census has shown, however, that the high rate of increase in the colored population, as shown by the census of 1880, was apparent only, and was due to the imperfect enumeration of 1870 in the southern states.

There has been an increase in the number of Chinese in the United States, during the decade from 1880 to 1890, of only 2,010, or 1.91 per cent, the number returned in 1880 being 105,465, and the number returned in 1890 being 107,475. The Chinese increased 66.88 per cent from 1870 to 1880, and 80.91 per cent from 1860 to 1870.

In 1880 the Japanese in the United States numbered only 148, while in 1890 they numbered 2,039. In 1870 there were only 55 Japanese returned under that census.

✓ The civilized Indians have decreased during the past ten years 7,601, or 11.45 per cent, the number returned in 1880 being 66,407 as against 58,806 returned in 1890.

CENTENARIANS IN THE UNITED STATES.

Bulletin No. 154 of the Census of 1890, treats exclusively of the poorhouses throughout the United States. It finds therein 73,045 paupers, 40,741 of these being males, and 32,304 females.

Then the ages are given in detail, ranging from less than 1 year to the respectable age of 128. Here is a table of all the paupers 100 years old and over:

AGE.	MALE.	FEMALE.	TOTAL.	AGE.	MALE.	FEMALE.	TOTAL.
100 to 104	40	51	91	123	1	1	2
105 to 109	16	18	34	125	0	1	1
110 to 114	6	9	15	128	0	1	1
115 to 119	5	6	11				
.... 122	0	1	1	Totals,	68	88	156

Of the *five* oldest paupers *four* are women, and belong [or rather *belonged*, for they are probably dead since 1890] to the following states: Missouri (122), South Carolina (123), Tennessee (125) and Alabama (128). The man (age, 123) was in a Georgian institution. All five were colored.

Between 90 and 94 years old, we find 345 men and 271 women. Between 95 and 99 years old, we find 80 men and 75 women. Out of a total of 73,045 inmates, the proportion is enormous.

THE SPHINX.

In ancient mythology the sphinx was a monster having the head and breast of a woman, the body of a dog, the tail of a serpent, the wings of an eagle, the paws of a lion and a human voice. She lived in the country near Thebes, and proposed to every passer-by the following enigma: "What animal is that which walks on four legs in the morning, two at noon and three in the evening?" (Edipus solved the riddle thus: "Man is the animal, for when he is an infant he crawls on his hands and feet; in the noontide of life he walks erect, and as the evening of his existence sets in, he supports himself with a stick." When the Sphinx found her riddle solved she destroyed herself. Her image is found often represented in ancient Egyptian architecture.

TO CROSS THE RUBICON.

To take a decisive step as did Caesar when he ~~crossed~~ the small stream that separated Gaul from Italy. No Roman general was allowed to come so near the capital city with his army.

POPULAR and ELECTORAL VOTES for PRESIDENTS.

YEAR.	CANDIDATES.	PARTY.	Popular Vote.	Elec'l Vote.
1840.	Martin Van Buren.....	Democrat.....	1,128,702	48
1840.	W. H. Harrison.....	Whig.....	1,275,017	234
1844.	James K. Polk.....	Democrat.....	1,337,243	170
1844.	Henry Clay.....	Whig.....	1,299,068	105
1848.	Zachary Taylor.....	Whig.....	1,360,101	163
1848.	Lewis Cass.....	Democrat.....	1,220,544	127
1848.	Martin Van Buren.....	Free Soil.....	291,263	...
1852.	Franklin Pierce.....	Democrat.....	1,601,474	254
1852.	Winfield Scott.....	Whig.....	1,386,578	42
1852.	John P. Hale.....	Free Soil.....	156,149	...
1856.	James Buchanan.....	Democrat.....	1,838,169	174
1856.	John C. Fremont.....	Republican.....	1,341,262	114
1856.	Millard Fillmore.....	American.....	874,534	8
1860.	Abraham Lincoln.....	Republican.....	1,866,352	180
1860.	Stephen A. Douglas.....	Democrat.....	1,375,157	12
1860.	John C. Breckenridge.....	Democrat.....	845,763	72
1860.	John Bell.....	Union.....	589,581	39
1864.	Abraham Lincoln.....	Republican.....	2,216,067	212
1864.	George B. McClellan.....	Democrat.....	1,808,725	21
1868.	U. S. Grant.....	Republican.....	3,015,071	214
1868.	Horatio Seymour.....	Democrat.....	2,709,613	80
1872.	U. S. Grant.....	Republican.....	3,597,070	286
1872.	Horace Greely.....	Liber'l and Dem.....	2,834,079	...
1872.	James Black.....	Prohibition.....	5,608	...
1876.	R. B. Hayes.....	Republican.....	4,033,950	185
1876.	Samuel J. Tilden.....	Democrat.....	4,284,885	184
1876.	Peter Cooper.....	Greenback.....	81,740	...
1876.	G. C. Smith.....	Prohibition.....	9,522	...
1880.	James A. Garfield.....	Republican.....	4,449,053	214
1880.	Winfield S. Hancock.....	Democrat.....	4,442,035	155
1880.	James B. Weaver.....	Greenback.....	307,306	...
1884.	Grover Cleveland.....	Democrat.....	4,911,017	219
1884.	James G. Blaine.....	Republican.....	4,848,334	182
1884.	Benj. F. Butler.....	Greenback.....	133,825	...
1884.	John P. St. John.....	Prohibition.....	151,800	...
1888.	Benjamin Harrison.....	Republican.....	5,441,902	233
1888.	Grover Cleveland.....	Democrat.....	5,538,560	168
1888.	Fisk.....	Prohibition.....	249,937	...
1888.	Labor Vote.....	.....	147,521	...
1892.	Grover Cleveland.....	Democrat.....	5,553,142	277
1892.	Benjamin Harrison.....	Republican.....	5,186,931	145
1892.	James B. Weaver.....	People's.....	1,030,128	22
1892.	John Bidwell.....	Prohibition.....	268,361	...
1896.	William McKinley.....	Republican.....	7,104,779	271
1896.	William J. Bryan.....	Democrat.....	6,502,925	176
1896.	Palmer.....	Gold Dem.....	133,424	...
1896.	Levering.....	Prohibition.....	132,007	...
1896.	Matchett.....	Social Democrat.....	36,274	...
1900.	William McKinley.....	Republican.....	7,220,193	292
1900.	William J. Bryan.....	Democrat.....	6,337,431	155
1900.	Woolley.....	Prohibition.....	207,125	...
1900.	Debs.....	Social Democrat.....	85,344	...

Popular and Electoral Vote for President—1900

STATES AND TERRITORIES	POPULAR VOTES.			ELECTORAL VOTE	
	McKinley	Bryan	Pluralities	McK.	Bryan
Alabama.....	55,634	96,368	40,734 B	....	11
Arkansas.....	44,700	81,141	36,442 B	....	8
California.....	165,175	124,985	39,770 Mc	9	....
Colorado.....	93,141	122,408	29,267 B	....	4
Connecticut.....	102,572	74,014	28,558 Mc	6	....
Delaware.....	22,529	18,858	3,671 Mc	3	....
Florida.....	7,314	28,007	20,693 B	..	4
Georgia.....	35,035	81,700	46,665 B	....	13
Idaho.....	27,198	29,414	2,216 B	....	3
Illinois.....	597,985	503,061	94,924 Mc	24	....
Indiana.....	336,063	309,594	26,479 Mc	15	....
Iowa.....	307,808	209,265	98,543 Mc	13	....
Kansas.....	185,955	162,601	23,354 Mc	10	....
Kentucky.....	226,801	234,899	8,098 B	....	13
Louisiana.....	14,233	53,671	39,438 B	....	8
Maine.....	65,435	30,822	28,613 Mc	6	....
Maryland.....	136,305	122,336	13,969 Mc	8	....
Massachusetts...	239,147	157,016	82,131 Mc	15	....
Michigan.....	316,269	211,685	104,584 Mc	14	....
Minnesota.....	190,461	112,901	77,560 Mc	9	....
Mississippi.....	5,753	51,706	45,953 B	....	9
Missouri.....	314,093	351,913	37,820 B	....	17
Montana.....	25,373	37,146	11,773 B	....	3
Nebraska.....	121,385	114,013	7,372 Mc	8	....
Nevada.....	3,849	6,347	2,498 B	....	3
New Hampshire..	54,798	35,489	19,309 Mc	4	....
New Jersey.....	221,707	164,808	56,899 Mc	10	....
New York.....	821,992	678,462	143,530 Mc	36	....
North Carolina..	133,080	157,773	24,653 B	....	11
North Dakota...	35,891	20,519	15,372 Mc	3	....
Ohio.....	543,918	474,882	69,036 Mc	23	....
Oregon.....	46,294	33,067	13,227 Mc	4	....
Pennsylvania.....	712,665	424,232	288,433 Mc	32	....
Rhode Island....	33,784	19,812	13,972 Mc	3	....
South Carolina..	3,779	47,233	43,654 B	....	9
South Dakota....	54,530	39,544	14,986 Mc	4	....
Tennessee.....	123,008	145,250	22,242 B	....	12
Texas.....	130,641	267,432	136,791 B	....	15
Utah.....	47,139	45,006	2,133 Mc	3	....
Vermont.....	42,568	12,830	29,738 Mc	4	....
Virginia.....	117,151	146,177	29,026 B	....	12
Washington.....	57,456	44,833	12,623 Mc	4	....
West Virginia...	119,851	98,811	21,040 Mc	6	....
Wisconsin.....	265,866	159,285	106,581 Mc	12	....
Wyoming.....	14,482	10,164	4,318 Mc	13	....
Totals.....	7,220,193	6,357,431		292	155
Plurality.....	862,762				
Majority over all	480,148				

How to Tell the Speed of a Train.

Here is a way to tell how fast you are traveling in a railway car. Every time a car passes over a rail-joint there is a distinct click. Count the number of these clicks in twenty seconds and you have the number of miles the train is going per hour. This is a simple matter of arithmetic, as the length of the rail is uniform.

Seasoning and Preserving Timber.

For the purpose of seasoning, timber should be piled under shelter, where it may be kept dry, but not exposed to a strong current of air. At the same time there should be a free circulation of air about the timber, with which view slats or blocks of wood should be placed between the pieces that lie over each other, near enough to prevent the timber from bending.

In the sheds, the pieces of timber should be piled in this way, or in square piles, and classed according to age and kind. Each pile should be distinctly marked with the number and kind of pieces, and the age, or the date of receiving them.

The piles should be taken down and made over again at intervals, varying with the length of time the timber has been cut.

The seasoning of timber requires from two to four years, according to its size.

Gradual drying and seasoning in this manner is considered the most favorable to the durability and strength of timber, but various methods have been prepared for hastening the process. For this purpose, *steaming* and *boiling* timber has been applied with success; *kiln-drying* is serviceable only for boards and pieces of small dimensions, and is apt to cause cracks, and to impair the strength of wood, unless performed very slowly.

Timber of large dimension is improved by *immersion in water* for some weeks, according to its size, after which, it is less subject to warp and crack in steaming.

Oak timber loses about *one-fifth of its weight* in seasoning, and about *one-third of its weight* in becoming dry.

Growth of the United States.

This country began the present century with 5,308,483 people. In the year 1810 the population was 7,239,881, an increase of 36.28 per cent; in 1820 it was 9,633,822, an increase of 33.66 per cent; in 1830 it was 12,866,020, an increase of 32.51 per cent; in 1840 it was 17,069,453, an increase of 32.52 per cent; in 1850 it was 23,191,876, an increase of 35.83 per cent; in 1860 it was 31,443,321, an increase of 35.11 per cent; in 1870 it was 38,558,371, an increase of 22.65 per cent; in 1880 it was 50,155,783, an increase of 30.08 per cent; in 1890 it was 62,622,250, an increase of about 28 per cent. In 1900, it was 76,304,799, an increase of very nearly 21 per cent.

The British Islands began the present century with three times as many people as the United States, and yet its present population is less than one-half of our own. Of all the civilized countries, Russia has the most people, 136,000,000, but at our rate of increase it will not be many years before this country passes Russia. Another interesting fact is that the English language is spreading twice as rapidly as any other tongue, so that the future promises to the United States not only a larger population, but in the language of the world.

FIVE PER CENT. INTEREST TABLE.

MONTHS.	DAYS.	\$1	\$2	\$3	\$4	\$5	\$10	\$20	\$30	\$40	\$50	\$60	\$70	\$80	\$90	\$100	\$200	\$500	\$1,000
1	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	3	14	14
2	2	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	6	28	28
3	3	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	8	42	42
4	4	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	11	56	56
5	5	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	14	70	70
6	6	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	17	84	84
7	7	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	19	98	98
8	8	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	22	112	112
9	9	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	25	126	126
10	10	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	28	140	140
11	11	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	31	154	154
12	12	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	34	168	168
13	13	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	37	182	182
14	14	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	40	196	196
15	15	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	43	210	210
16	16	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	46	224	224
17	17	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	49	238	238
18	18	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	52	252	252
19	19	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	55	266	266
20	20	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	58	280	280
21	21	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	61	294	294
22	22	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	64	308	308
23	23	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	67	322	322
24	24	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	70	336	336
25	25	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	73	350	350
26	26	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	76	364	364
27	27	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	79	378	378
28	28	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	82	392	392
29	29	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	85	406	406
30	30	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	88	420	420
31	31	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	91	434	434
32	32	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	94	448	448
33	33	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	97	462	462
34	34	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	100	476	476
35	35	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	103	490	490
36	36	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	106	504	504
37	37	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	109	518	518
38	38	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	112	532	532
39	39	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	115	546	546
40	40	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	118	560	560
41	41	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	121	574	574
42	42	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	124	588	588
43	43	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	127	602	602
44	44	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	130	616	616
45	45	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	133	630	630
46	46	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	136	644	644
47	47	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	139	658	658
48	48	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	142	672	672
49	49	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	145	686	686
50	50	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	148	700	700
51	51	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	151	714	714
52	52	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	154	728	728
53	53	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	157	742	742
54	54	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	160	756	756
55	55	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	163	770	770
56	56	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	166	784	784
57	57	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	169	798	798
58	58	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	172	812	812
59	59	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	175	826	826
60	60	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	178	840	840
61	61	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	181	854	854
62	62	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	184	868	868
63	63	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	187	882	882
64	64	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	190	896	896
65	65	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	193	910	910
66	66	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	196	924	924
67	67	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	199	938	938
68	68	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	202	952	952
69	69	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	205	966	966
70	70	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	208	980	980
71	71	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	211	994	994
72	72	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	214	1008	1008
73	73	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	217	1022	1022
74	74	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	220	1036	1036
75	75	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	223	1050	1050
76	76	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	226	1064	1064
77	77	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	229	1078	1078
78	78	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	232	1092	1092
79	79	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	235	1106	1106
80	80	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	238	1120	1120
81	81	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	241	1134	1134
82	82	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	244	1148	1148
83	83	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	247	1162	1162
84	84	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	250	1176	1176
85	85	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	253	1190	1190
86	86	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	256	1204	1204
87	87	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	259	1218	1218
88	88	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	262	1232	1232
89	89	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	265	1246	1246
90	90	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	268	1260	1260
91	91	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	27		

SIX PER CENT. INTEREST TABLE.

	\$1	\$2	\$3	\$4	\$5	\$10	\$20	\$30	\$40	\$50	\$60	\$70	\$80	\$90	\$100	\$200	\$500	\$1,000
DAYS.	1	0	0	0	0	0	0	1	1	1	1	1	1	2	2	3	8	17
	2	0	0	0	0	0	1	1	1	2	2	2	3	3	3	7	17	33
	3	0	0	0	0	1	1	2	2	3	3	4	4	5	5	10	25	50
	4	0	0	0	0	1	1	2	3	3	4	5	5	6	7	13	33	67
	5	0	0	0	0	1	2	3	3	4	5	6	7	8	8	17	42	83
	6	0	0	0	0	1	2	3	4	5	6	7	8	9	10	20	50	1.00
	7	0	0	0	0	1	2	3	4	5	6	7	8	9	11	23	58	1.17
	8	0	0	0	0	1	2	3	4	5	6	7	8	9	12	27	67	1.33
	9	0	0	0	0	1	2	3	4	5	6	7	8	9	13	30	75	1.50
	10	0	0	0	0	1	2	3	4	5	6	7	8	9	15	33	83	1.67
	11	0	0	0	0	1	2	3	4	5	6	7	8	9	17	50	1.25	2.50
	12	0	0	0	0	1	2	3	4	5	6	7	8	9	23	50	1.67	3.33
	13	0	0	0	0	1	2	3	4	5	6	7	8	9	30	67	2.08	4.17
	14	0	0	0	0	1	2	3	4	5	6	7	8	9	33	83	2.50	5.00
	15	0	0	0	0	1	2	3	4	5	6	7	8	9	38	100	2.75	5.50
	16	0	0	0	0	1	2	3	4	5	6	7	8	9	45	110	3.25	6.50
	17	0	0	0	0	1	2	3	4	5	6	7	8	9	50	125	3.75	7.50
	18	0	0	0	0	1	2	3	4	5	6	7	8	9	55	140	4.25	8.50
	19	0	0	0	0	1	2	3	4	5	6	7	8	9	60	155	4.75	9.50
	20	0	0	0	0	1	2	3	4	5	6	7	8	9	67	170	5.25	10.50
	21	0	0	0	0	1	2	3	4	5	6	7	8	9	75	187	5.75	11.50
	22	0	0	0	0	1	2	3	4	5	6	7	8	9	83	205	6.25	12.50
	23	0	0	0	0	1	2	3	4	5	6	7	8	9	92	225	6.75	13.50
	24	0	0	0	0	1	2	3	4	5	6	7	8	9	100	245	7.25	14.50
	25	0	0	0	0	1	2	3	4	5	6	7	8	9	110	267	7.75	15.50
	26	0	0	0	0	1	2	3	4	5	6	7	8	9	120	290	8.25	16.50
	27	0	0	0	0	1	2	3	4	5	6	7	8	9	130	315	8.75	17.50
	28	0	0	0	0	1	2	3	4	5	6	7	8	9	140	340	9.25	18.50
	29	0	0	0	0	1	2	3	4	5	6	7	8	9	150	367	9.75	19.50
	30	0	0	0	0	1	2	3	4	5	6	7	8	9	160	395	10.25	20.50
	31	0	0	0	0	1	2	3	4	5	6	7	8	9	170	425	10.75	21.50
	32	0	0	0	0	1	2	3	4	5	6	7	8	9	180	455	11.25	22.50
	33	0	0	0	0	1	2	3	4	5	6	7	8	9	190	487	11.75	23.50
	34	0	0	0	0	1	2	3	4	5	6	7	8	9	200	520	12.25	24.50
	35	0	0	0	0	1	2	3	4	5	6	7	8	9	210	555	12.75	25.50
	36	0	0	0	0	1	2	3	4	5	6	7	8	9	220	590	13.25	26.50
	37	0	0	0	0	1	2	3	4	5	6	7	8	9	230	625	13.75	27.50
	38	0	0	0	0	1	2	3	4	5	6	7	8	9	240	660	14.25	28.50
	39	0	0	0	0	1	2	3	4	5	6	7	8	9	250	695	14.75	29.50
	40	0	0	0	0	1	2	3	4	5	6	7	8	9	260	730	15.25	30.50
	41	0	0	0	0	1	2	3	4	5	6	7	8	9	270	765	15.75	31.50
	42	0	0	0	0	1	2	3	4	5	6	7	8	9	280	800	16.25	32.50
	43	0	0	0	0	1	2	3	4	5	6	7	8	9	290	835	16.75	33.50
	44	0	0	0	0	1	2	3	4	5	6	7	8	9	300	870	17.25	34.50
	45	0	0	0	0	1	2	3	4	5	6	7	8	9	310	905	17.75	35.50
	46	0	0	0	0	1	2	3	4	5	6	7	8	9	320	940	18.25	36.50
	47	0	0	0	0	1	2	3	4	5	6	7	8	9	330	975	18.75	37.50
	48	0	0	0	0	1	2	3	4	5	6	7	8	9	340	1010	19.25	38.50
	49	0	0	0	0	1	2	3	4	5	6	7	8	9	350	1045	19.75	39.50
	50	0	0	0	0	1	2	3	4	5	6	7	8	9	360	1080	20.25	40.50
	51	0	0	0	0	1	2	3	4	5	6	7	8	9	370	1115	20.75	41.50
	52	0	0	0	0	1	2	3	4	5	6	7	8	9	380	1150	21.25	42.50
	53	0	0	0	0	1	2	3	4	5	6	7	8	9	390	1185	21.75	43.50
	54	0	0	0	0	1	2	3	4	5	6	7	8	9	400	1220	22.25	44.50
	55	0	0	0	0	1	2	3	4	5	6	7	8	9	410	1255	22.75	45.50
	56	0	0	0	0	1	2	3	4	5	6	7	8	9	420	1290	23.25	46.50
	57	0	0	0	0	1	2	3	4	5	6	7	8	9	430	1325	23.75	47.50
	58	0	0	0	0	1	2	3	4	5	6	7	8	9	440	1360	24.25	48.50
	59	0	0	0	0	1	2	3	4	5	6	7	8	9	450	1395	24.75	49.50
	60	0	0	0	0	1	2	3	4	5	6	7	8	9	460	1430	25.25	50.50
	61	0	0	0	0	1	2	3	4	5	6	7	8	9	470	1465	25.75	51.50
	62	0	0	0	0	1	2	3	4	5	6	7	8	9	480	1500	26.25	52.50
	63	0	0	0	0	1	2	3	4	5	6	7	8	9	490	1535	26.75	53.50
	64	0	0	0	0	1	2	3	4	5	6	7	8	9	500	1570	27.25	54.50
	65	0	0	0	0	1	2	3	4	5	6	7	8	9	510	1605	27.75	55.50
	66	0	0	0	0	1	2	3	4	5	6	7	8	9	520	1640	28.25	56.50
	67	0	0	0	0	1	2	3	4	5	6	7	8	9	530	1675	28.75	57.50
	68	0	0	0	0	1	2	3	4	5	6	7	8	9	540	1710	29.25	58.50
	69	0	0	0	0	1	2	3	4	5	6	7	8	9	550	1745	29.75	59.50
	70	0	0	0	0	1	2	3	4	5	6	7	8	9	560	1780	30.25	60.50
	71	0	0	0	0	1	2	3	4	5	6	7	8	9	570	1815	30.75	61.50
	72	0	0	0	0	1	2	3	4	5	6	7	8	9	580	1850	31.25	62.50
	73	0	0	0	0	1	2	3	4	5	6	7	8	9	590	1885	31.75	63.50
	74	0	0	0	0	1	2	3	4	5	6	7	8	9	600	1920	32.25	64.50
	75	0	0	0	0	1	2	3	4	5	6	7	8	9	610	1955	32.75	65.50
	76	0	0	0	0	1	2	3	4	5	6	7	8	9	620	1990	33.25	66.50
	77	0	0	0	0	1	2	3	4	5	6	7	8	9	630	2025	33.75	67.50
	78	0	0	0	0	1	2	3	4	5	6	7	8	9	640	2060	34.25	68.50
	79	0	0	0	0	1	2	3	4	5	6	7	8	9	650	2095	34.75	69.50
	80	0	0	0	0	1	2	3	4	5	6	7	8	9	660	2130	35.25	70.50
	81	0	0	0	0	1	2	3	4	5	6	7	8	9	670	2165	35.75	71.50
	82	0	0	0	0	1	2	3	4	5	6	7	8	9	680	2200	36.25	72.50
	83	0	0	0	0	1	2	3	4	5	6	7	8	9	690	2235	36.75	73.50
	84	0	0	0	0	1	2	3	4	5	6	7	8	9	700	2270	37.25	74.50
	85	0	0	0	0	1	2	3	4	5	6	7	8	9	710	2305	37.75	75.50
	86	0	0	0	0	1	2	3	4	5	6	7	8	9	720	2340	38.25	76.50
	87	0	0	0	0	1	2	3	4	5	6	7	8	9	730	2375	38.75	77.50
	88	0	0	0	0	1	2	3	4	5	6	7	8	9	740	2410	39.25	78.50
	89	0	0	0	0	1	2	3	4	5	6	7	8	9	750	2445	39.75	79.50
	90	0	0	0	0	1	2	3	4	5	6	7	8	9	760	2480	40.25	80.50
	91	0	0	0	0	1	2	3	4	5	6	7	8	9	770	2515	40.75	81.50
	92	0	0	0	0	1	2	3	4	5	6	7	8	9	780	2550	41.25	82.50
	93	0	0	0	0	1	2	3	4	5	6	7	8	9	790	2585	41.75	83.50
	94	0	0	0	0	1	2											

SEVEN PER CENT. INTEREST TABLE.

DAYS	\$1	\$2	\$3	\$4	\$5	\$10	\$20	\$30	\$40	\$50	\$60	\$70	\$80	\$90	\$100	\$200	\$500	\$1,000
1	0	0	0	0	0	0	0	1	1	1	1	1	2	2	2	4	10	19
2	0	0	0	0	0	0	1	1	2	2	2	3	3	3	4	8	19	39
3	0	0	0	0	0	0	1	2	2	3	3	4	4	4	5	9	39	58
4	0	0	0	0	0	0	1	2	3	3	4	5	5	5	6	13	39	78
5	0	0	0	0	0	0	1	2	3	4	4	5	6	6	7	16	45	97
6	0	0	0	0	0	0	1	2	4	4	5	6	7	7	8	22	58	136
7	0	0	0	0	0	0	1	2	4	5	6	7	8	8	9	27	68	155
8	0	0	0	0	0	0	1	2	5	5	6	8	9	9	10	31	78	174
9	0	0	0	0	0	0	1	2	5	6	6	8	10	10	11	36	88	194
10	0	0	0	0	0	0	1	2	6	6	7	9	11	11	12	41	97	238
15	0	0	0	0	0	0	1	2	6	7	8	10	12	12	13	46	114	289
20	0	0	0	0	0	0	1	2	7	7	9	11	13	13	14	51	129	338
25	0	0	0	0	0	0	1	2	7	8	10	12	14	14	15	56	146	389
30	0	0	0	0	0	0	1	2	8	8	11	13	15	15	16	61	163	441
35	0	0	0	0	0	0	1	2	8	9	11	14	16	16	17	66	180	493
40	0	0	0	0	0	0	1	2	9	9	12	14	17	17	18	71	197	545
45	0	0	0	0	0	0	1	2	9	10	12	15	18	18	19	76	214	597
50	0	0	0	0	0	0	1	2	10	10	13	16	19	19	20	81	231	649
55	0	0	0	0	0	0	1	2	10	11	14	17	20	20	21	86	248	701
60	0	0	0	0	0	0	1	2	11	11	14	18	21	21	22	91	265	753
65	0	0	0	0	0	0	1	2	11	12	15	19	22	22	23	96	282	805
70	0	0	0	0	0	0	1	2	12	12	16	20	23	23	24	101	300	857
75	0	0	0	0	0	0	1	2	12	13	17	21	24	24	25	106	317	909
80	0	0	0	0	0	0	1	2	13	13	18	22	25	25	26	111	335	961
85	0	0	0	0	0	0	1	2	13	14	19	23	26	26	27	116	352	1013
90	0	0	0	0	0	0	1	2	14	14	20	24	27	27	28	121	370	1065
95	0	0	0	0	0	0	1	2	14	15	21	25	28	28	29	126	387	1117
100	0	0	0	0	0	0	1	2	15	15	22	26	29	29	30	131	405	1169
110	0	0	0	0	0	0	1	2	15	16	23	27	30	30	31	136	422	1221
120	0	0	0	0	0	0	1	2	16	16	24	28	31	31	32	141	440	1273
130	0	0	0	0	0	0	1	2	16	17	25	29	32	32	33	146	457	1325
140	0	0	0	0	0	0	1	2	17	17	26	30	33	33	34	151	475	1377
150	0	0	0	0	0	0	1	2	17	18	27	31	34	34	35	156	492	1429
160	0	0	0	0	0	0	1	2	18	18	28	32	35	35	36	161	510	1481
170	0	0	0	0	0	0	1	2	18	19	29	33	36	36	37	166	527	1533
180	0	0	0	0	0	0	1	2	19	19	30	34	37	37	38	171	545	1585
190	0	0	0	0	0	0	1	2	19	20	31	35	38	38	39	176	562	1637
200	0	0	0	0	0	0	1	2	20	20	32	36	39	39	40	181	580	1689
210	0	0	0	0	0	0	1	2	20	21	33	37	40	40	41	186	597	1741
220	0	0	0	0	0	0	1	2	21	21	34	38	41	41	42	191	615	1793
230	0	0	0	0	0	0	1	2	21	22	35	39	42	42	43	196	632	1845
240	0	0	0	0	0	0	1	2	22	22	36	40	43	43	44	201	650	1897
250	0	0	0	0	0	0	1	2	22	23	37	41	44	44	45	206	667	1949
260	0	0	0	0	0	0	1	2	23	23	38	42	45	45	46	211	685	2001
270	0	0	0	0	0	0	1	2	23	24	39	43	46	46	47	216	702	2053
280	0	0	0	0	0	0	1	2	24	24	40	44	47	47	48	221	720	2105
290	0	0	0	0	0	0	1	2	24	25	41	45	48	48	49	226	737	2157
300	0	0	0	0	0	0	1	2	25	25	42	46	49	49	50	231	755	2209
310	0	0	0	0	0	0	1	2	25	26	43	47	50	50	51	236	772	2261
320	0	0	0	0	0	0	1	2	26	26	44	48	51	51	52	241	790	2313
330	0	0	0	0	0	0	1	2	26	27	45	49	52	52	53	246	807	2365
340	0	0	0	0	0	0	1	2	27	27	46	50	53	53	54	251	825	2417
350	0	0	0	0	0	0	1	2	27	28	47	51	54	54	55	256	842	2469
360	0	0	0	0	0	0	1	2	28	28	48	52	55	55	56	261	860	2521
370	0	0	0	0	0	0	1	2	28	29	49	53	56	56	57	266	877	2573
380	0	0	0	0	0	0	1	2	29	29	50	54	57	57	58	271	895	2625
390	0	0	0	0	0	0	1	2	29	30	51	55	58	58	59	276	912	2677
400	0	0	0	0	0	0	1	2	30	30	52	56	59	59	60	281	930	2729
410	0	0	0	0	0	0	1	2	30	31	53	57	60	60	61	286	947	2781
420	0	0	0	0	0	0	1	2	31	31	54	58	61	61	62	291	965	2833
430	0	0	0	0	0	0	1	2	31	32	55	59	62	62	63	296	982	2885
440	0	0	0	0	0	0	1	2	32	32	56	60	63	63	64	301	1000	2937
450	0	0	0	0	0	0	1	2	32	33	57	61	64	64	65	306	1017	2989
460	0	0	0	0	0	0	1	2	33	33	58	62	65	65	66	311	1035	3041
470	0	0	0	0	0	0	1	2	33	34	59	63	66	66	67	316	1052	3093
480	0	0	0	0	0	0	1	2	34	34	60	64	67	67	68	321	1070	3145
490	0	0	0	0	0	0	1	2	34	35	61	65	68	68	69	326	1087	3197
500	0	0	0	0	0	0	1	2	35	35	62	66	69	69	70	331	1105	3249
510	0	0	0	0	0	0	1	2	35	36	63	67	70	70	71	336	1122	3301
520	0	0	0	0	0	0	1	2	36	36	64	68	71	71	72	341	1140	3353
530	0	0	0	0	0	0	1	2	36	37	65	69	72	72	73	346	1157	3405
540	0	0	0	0	0	0	1	2	37	37	66	70	73	73	74	351	1175	3457
550	0	0	0	0	0	0	1	2	37	38	67	71	74	74	75	356	1192	3509
560	0	0	0	0	0	0	1	2	38	38	68	72	75	75	76	361	1210	3561
570	0	0	0	0	0	0	1	2	38	39	69	73	76	76	77	366	1227	3613
580	0	0	0	0	0	0	1	2	39	39	70	74	77	77	78	371	1245	3665
590	0	0	0	0	0	0	1	2	39	40	71	75	78	78	79	376	1262	3717
600	0	0	0	0	0	0	1	2	40	40	72	76	79	79	80	381	1280	3769
610	0	0	0	0	0	0	1	2	40	41	73	77	80	80	81	386	1297	3821
620	0	0	0	0	0	0	1	2	41	41	74	78	81	81	82	391	1315	3873
630	0	0	0	0	0	0	1	2	41	42	75	79	82	82	83	396	1332	3925
640	0	0	0	0	0	0	1	2	42	42	76	80	83	83	84	401	1350	3977
650	0	0	0	0	0	0	1	2	42	43	77	81	84	84	85	406	1367	4029
660	0	0	0	0	0	0	1	2	43	43	78	82	85	85	86	411	1385	4081
670	0	0	0	0	0	0	1	2	43	44	79	83	86	86	87	416	1402	4133
680	0	0	0	0	0	0	1	2	44	44	80	84	87	87	88	421	1420	4185
690	0	0	0	0	0	0	1	2	44	45	81	85	88	88	89	426	1437	4237
700	0	0	0	0	0	0	1	2	45	45	82	86	89	89	90	431	1455	4289
710	0	0	0	0	0	0	1	2	45	46	83	87	90	90	91	436	1472	4341
720	0	0	0	0	0	0	1	2	46	46	84	88	91	91	92	441	1490	4393
730	0	0	0	0	0	0	1											

EIGHT PER CENT. INTEREST TABLE.

TIME.	\$1	\$2	\$3	\$4	\$5	\$6	\$7	\$8	\$9	\$10	\$100	\$1000
1 DAY.....	0	0	0	0	0	0	0	0	0	0	2	22
2 ".....	0	0	0	0	0	0	0	0	0	0	4	44
3 ".....	0	0	0	0	0	0	0	1	1	1	7	67
4 ".....	0	0	0	0	0	1	1	1	1	1	9	89
5 ".....	0	0	0	0	1	1	1	1	1	1	11	1.11
6 ".....	0	0	0	1	1	1	1	1	1	1	13	1.33
7 ".....	0	0	0	1	1	1	1	1	1	2	16	1.56
8 ".....	0	0	1	1	1	1	1	1	2	2	18	1.78
9 ".....	0	0	1	1	1	1	1	2	2	2	20	2.00
10 ".....	0	0	1	1	1	1	2	2	2	2	22	2.22
11 ".....	0	0	1	1	1	1	2	2	2	2	24	2.44
12 ".....	0	1	1	1	1	2	2	2	2	3	27	2.67
13 ".....	0	1	1	1	1	2	2	2	3	3	29	2.89
14 ".....	0	1	1	1	2	2	2	2	3	3	31	3.11
15 ".....	0	1	1	1	2	2	2	3	3	3	33	3.33
16 ".....	0	1	1	1	2	2	2	3	3	4	36	3.56
17 ".....	0	1	1	2	2	2	3	3	3	4	38	3.78
18 ".....	0	1	1	2	2	2	3	3	4	4	40	4.00
19 ".....	0	1	1	2	2	3	3	3	4	4	42	4.22
20 ".....	0	1	1	2	2	3	3	4	4	4	44	4.44
21 ".....	0	1	1	2	2	3	3	4	4	5	47	4.67
22 ".....	0	1	1	2	2	3	3	4	4	5	49	4.89
23 ".....	1	1	2	2	3	3	4	4	5	5	51	5.11
24 ".....	1	1	2	2	3	3	4	4	5	5	53	5.33
25 ".....	1	1	2	2	3	3	4	4	5	6	56	5.56
26 ".....	1	1	2	2	3	3	4	5	5	6	58	5.78
27 ".....	1	1	2	2	3	4	4	5	5	6	60	6.00
28 ".....	1	1	2	2	3	4	4	5	6	6	62	6.22
29 ".....	1	1	2	3	3	4	5	5	6	6	64	6.44
1 MON.....	1	1	2	3	3	4	5	5	6	7	67	6.67
2 ".....	1	3	4	5	7	8	9	11	12	13	1.33	13.33
3 ".....	2	4	6	8	10	12	14	16	18	20	2.00	20.00
4 ".....	3	5	8	11	13	16	19	21	24	27	2.67	26.67
5 ".....	3	7	10	13	17	20	23	27	30	33	3.33	33.33
6 ".....	4	8	12	16	20	24	28	32	36	40	4.00	40.00
7 ".....	5	9	14	19	23	28	33	37	42	47	4.67	46.67
8 ".....	5	11	16	21	27	32	37	43	48	53	5.33	53.33
9 ".....	6	12	18	24	30	36	42	48	54	60	6.00	60.00
10 ".....	7	13	20	27	33	40	47	53	60	67	6.67	66.67
11 ".....	7	15	22	29	37	44	51	59	66	73	7.33	73.33
1 YEAR.....	8	16	24	32	40	48	56	64	72	80	8.00	80.00

Builders' Estimating Tables.

Table showing quantity of material in every four lineal feet of exterior wall in a balloon frame building, height of wall being given:

Length of Studs.	Size of Sills.	Size of Studs, Braces, etc.	Quantity of Rough Lumber.	Quantity of Inch Boarding.	Siding in sup. feet.	Tar Paper in sup. feet.
8	6x 6	2x4 studs.	42	36	40	74
10	6x 8	4x4 braces.	52	44	50	80
12	6x10	4x4 plates.	62	53	60	96
14	6x10	1x6 ribbons.	69	62	70	112
16	8x10		82	71	80	128
18	8x10	studs	87	80	90	144
20	8x12	16 inches from centers.	98	88	100	160
22	9x12		109	97	110	176
24	10x12		119	106	120	192
18	10x10	2x6 studs.	122	80	90	144
20	10x12	6x6 braces.	137	88	100	160
22	10x12	4x6 plates.	145	97	110	176
24	12x12	1x6 ribbons.	162	106	120	192
26	10x14		169	114	130	208
28	10x14	studs 16 inch centers.	176	123	140	224
30	12x14		198	132	150	240

Table showing amount of lumber in rafters, collar-piece and boarding, and number of shingles to four lineal feet of roof, measured from eave to eave over ridge. Rafters 16-inch centers:

Width of House. Feet.	Size of Rafters.	Size of Collar-piece.	Quantity of Lumber in Rafter and Collar-piece.	Quantity of Board'g Feet.	No. of Shingl's
14	2x4	2x4	39	91	560
16	2x4	2x4	45	70	640
18	2x4	2x4	50	79	720
20	2x4	2x4	56	88	800
22	2x4	2x4	62	97	880
24	2x4	2x4	67	106	960
26	2x6	2x6	84	88	800
28	2x6	2x6	92	97	880
30	2x6	2x6	101	106	960
32	2x6	2x6	109	115	1040
34	2x6	2x6	117	124	1120
36	2x6	2x6	126	133	1200

WAGES TABLES — VALUE OF TIME — FOR DAYS, AT STATED RATES PER MONTH.

Rate.	\$14	\$15	\$16	\$17	\$18	\$19	\$20	\$21	\$22	\$23	\$24	\$25
Days.												
1.....	.54	.58	.62	.65	.69	.73	.77	.81	.85	.88	.92	.96
2.....	1.08	1.15	1.23	1.31	1.38	1.46	1.54	1.62	1.69	1.77	1.85	1.92
3.....	1.62	1.73	1.85	1.96	2.08	2.19	2.31	2.42	2.54	2.65	2.77	2.88
4.....	2.15	2.31	2.46	2.62	2.77	2.92	3.08	3.23	3.38	3.54	3.69	3.85
5.....	2.69	2.88	3.08	3.27	3.46	3.65	3.85	4.04	4.23	4.42	4.62	4.81
6.....	3.23	3.46	3.69	3.92	4.15	4.38	4.62	4.85	5.08	5.31	5.54	5.77
7.....	3.77	4.04	4.31	4.58	4.85	5.12	5.38	5.65	5.92	6.19	6.46	6.73
8.....	4.31	4.62	4.92	5.23	5.54	5.85	6.15	6.46	6.77	7.08	7.38	7.69
9.....	4.85	5.19	5.54	5.88	6.23	6.58	6.92	7.27	7.62	7.96	8.31	8.65
10.....	5.38	5.77	6.15	6.54	6.92	7.31	7.69	8.08	8.46	8.85	9.23	9.62
11.....	5.92	6.35	6.77	7.19	7.62	8.04	8.46	8.88	9.31	9.73	10.15	10.58
12.....	6.46	6.92	7.38	7.85	8.31	8.77	9.23	9.69	10.15	10.62	11.08	11.54
13.....	7.00	7.59	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50
14.....	7.54	8.08	8.62	9.15	9.69	10.23	10.77	11.31	11.85	12.38	12.92	13.46
15.....	8.08	8.65	9.23	9.81	10.38	10.96	11.54	12.12	12.69	13.27	13.85	14.42
16.....	8.62	9.23	9.85	10.46	11.08	11.69	12.31	12.92	13.54	14.15	14.77	15.38
17.....	9.15	9.81	10.46	11.12	11.77	12.42	13.08	13.73	14.38	15.04	15.69	16.35
18.....	9.69	10.38	11.08	11.77	12.46	13.15	13.85	14.54	15.23	15.92	16.62	17.31
19.....	10.23	10.96	11.69	12.42	13.15	13.88	14.62	15.35	16.08	16.81	17.54	18.27
20.....	10.77	11.54	12.31	13.08	13.85	14.62	15.38	16.15	16.92	17.69	18.46	19.23
21.....	11.31	12.12	12.92	13.73	14.54	15.35	16.15	16.96	17.77	18.58	19.38	20.19
22.....	11.85	12.69	13.54	14.38	15.23	16.08	16.92	17.77	18.62	19.46	20.31	21.15
23.....	12.38	13.27	14.15	15.04	15.92	16.81	17.69	18.58	19.46	20.35	21.23	22.12
24.....	12.92	13.85	14.77	15.69	16.62	17.54	18.46	19.38	20.31	21.23	22.15	23.08
25.....	13.46	14.42	15.38	16.35	17.31	18.27	19.23	20.19	21.15	22.12	23.08	24.04
26.....	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00

Six Days' Wages.	One Day.	Eight Hours.	Six Hours.	Five Hours.	Four Hours.	Two Hours.	One Hour.
\$2	33 $\frac{1}{3}$	26 $\frac{2}{3}$	20	16 $\frac{2}{3}$	13 $\frac{1}{3}$	6 $\frac{2}{3}$	3 $\frac{1}{2}$
3	50	40	30	25	20	10	5
4	66 $\frac{2}{3}$	53 $\frac{1}{3}$	40	33 $\frac{1}{3}$	26 $\frac{2}{3}$	13 $\frac{1}{3}$	6 $\frac{2}{3}$
5	83 $\frac{1}{3}$	66 $\frac{2}{3}$	50	41 $\frac{2}{3}$	33 $\frac{1}{3}$	16 $\frac{2}{3}$	8 $\frac{1}{2}$
6	\$1 00	80	60	50	40	20	10
7	1 16 $\frac{2}{3}$	93 $\frac{1}{3}$	70	58 $\frac{1}{3}$	46 $\frac{2}{3}$	23 $\frac{1}{3}$	11 $\frac{1}{2}$
8	1 33 $\frac{1}{3}$	\$1 06 $\frac{2}{3}$	80	66 $\frac{2}{3}$	53 $\frac{1}{3}$	26 $\frac{2}{3}$	13 $\frac{1}{2}$
9	1 50	1 20	90	75	60	30	15
10	1 66 $\frac{2}{3}$	1 33 $\frac{1}{3}$	\$1 00	83 $\frac{1}{3}$	66 $\frac{2}{3}$	33 $\frac{1}{3}$	16 $\frac{2}{3}$
11	1 83 $\frac{1}{3}$	1 46 $\frac{2}{3}$	1 10	91 $\frac{2}{3}$	73 $\frac{1}{3}$	36 $\frac{2}{3}$	18 $\frac{1}{2}$
12	2 00	1 60	1 20	\$1 00	80	40	20
13	2 16 $\frac{2}{3}$	1 73 $\frac{1}{3}$	1 30	1 08 $\frac{1}{3}$	86 $\frac{2}{3}$	43 $\frac{1}{3}$	21 $\frac{1}{2}$
14	2 33 $\frac{1}{3}$	1 86 $\frac{2}{3}$	1 40	1 16 $\frac{2}{3}$	93 $\frac{1}{3}$	46 $\frac{2}{3}$	23 $\frac{1}{2}$
15	2 50	2 00	1 50	1 25	\$1 00	50	25
16	2 66 $\frac{2}{3}$	2 13 $\frac{1}{3}$	1 60	1 33 $\frac{1}{3}$	1 06 $\frac{2}{3}$	53 $\frac{1}{3}$	26 $\frac{1}{2}$
17	2 83 $\frac{1}{3}$	2 26 $\frac{2}{3}$	1 70	1 41 $\frac{2}{3}$	1 13 $\frac{1}{3}$	56 $\frac{2}{3}$	28 $\frac{1}{2}$
18	3 00	2 40	1 80	1 50	1 20	60	30
19	3 16 $\frac{2}{3}$	2 53 $\frac{1}{3}$	1 90	1 58 $\frac{1}{3}$	1 26 $\frac{2}{3}$	63 $\frac{1}{3}$	31 $\frac{1}{2}$
20	3 33 $\frac{1}{3}$	2 66 $\frac{2}{3}$	2 00	1 66 $\frac{2}{3}$	1 33 $\frac{1}{3}$	66 $\frac{2}{3}$	33 $\frac{1}{2}$

Carpenters', Plasterers' and Bricklayers' Work.

To find how many square yards in a floor or wall: *multiply the length by the width or height, and divide the product by 9.*

How many square yards in a floor 18 ft. long and 14 ft. wide; and how many yards of carpet $\frac{3}{4}$ yd. wide, will it take!

To divide by a fraction, multiply the number by the *denominator*, and divide the product by the *numerator*.

To multiply by a fraction, multiply by the *numerator* and divide by the *denominator*.

Find how many square yards in the four walls and ceiling of a room 18 by 20, 11 ft. high; and the cost of plastering the same at 15 cts. per sq. yd.

The length of the *four walls* is (twice 20 and twice 18) 76 feet, which multiplied by the height gives the sq. ft. in the walls. The length multiplied by the width gives the sq. ft. in the ceiling.

$$\begin{array}{r} 28 \\ 4 \\ \hline \end{array}$$

$$\begin{array}{l} 3)112(37\frac{1}{2} \text{ yds. carpet.} \\ \quad 28 \text{ sq. yds.} \\ \hline \text{Ans } 37\frac{1}{2} \text{ yds. carpet.} \end{array}$$

$$\begin{array}{l} 76 \times 11 = 836 \text{ sq. ft. in four walls.} \\ 18 \times 20 = 360 \text{ " " " ceiling.} \end{array}$$

$$\begin{array}{r} 9)1196(133 \text{ sq. yds. nearly.} \\ \quad 15 \end{array}$$

$$\text{Ans. } \$19.95 \text{ for plastering.}$$

To measure square timbers: *multiply the length, width and thickness together, and divide the product by 12.*

How many square feet in a joist 2 by 8, 18 ft. long?

$$2 \times 8 \times 18 = 288 \div 12 = 24 \text{ ft. Ans}$$

$$\text{Sill 8 by 8, 22 ft. long? } 8 \times 8 \times 22 = 1408 \div 12 = 117\frac{1}{3} \text{ ft. Ans.}$$

Amount of Paint Required for a Given Surface.

It is impossible to give a rule that will apply in all cases, as the amount varies with the kind and thickness of the paint, the kind of wood or other material to which it is applied, the age of the surface, etc. The following is an approximate rule: Divide the number of square feet of surface by 200. The result will be the number of gallons of liquid paint required to give two coats; or, divide by 18 and the result will be the number of pounds of pure ground white lead required to give three coats.

How to Kill Grease Spots before Painting.

Wash over smoky or greasy parts with saltpetre, or very thin lime white-wash. If soap-suds are used, they must be washed off thoroughly, as they prevent the paint from drying hard.

Dimensions of One Acre.

A square, whose sides are 12,649 rods, or 69.57 yards or 208.70 feet long, contains one acre. Table of dimensions of rectangle containing one acre:

RODS.

1	$\times 160$	$1\frac{1}{2} \times 106\frac{2}{3}$	2	$\times 80$	$2\frac{1}{2} \times 64$
3	$\times 53\frac{1}{3}$	$3\frac{1}{2} \times 45\ 5-7$	4	$\times 40$	$4\frac{1}{2} \times 35\ 5-9$
5	$\times 32$	$5\frac{1}{2} \times 29\ 1-11$	6	$\times 26\frac{2}{3}$	$6\frac{1}{2} \times 24\ 8-13$
7	$\times 22\ 6-7$	$7\frac{1}{2} \times 21\frac{1}{3}$	8	$\times 20$	$8\frac{1}{2} \times 18\ 14-17$
9	$\times 17\ 7-9$	$9\frac{1}{2} \times 16\ 16-19$	10	$\times 16$	$10\frac{1}{2} \times 15\ 5-21$
11	$\times 14\ 6-11$	$11\frac{1}{2} \times 13\ 21-33$	12	$\times 13\frac{1}{2}$	$12\frac{1}{2} \times 12\ 4-5$
.....	.....	.....	.....	.....	$12\ 13-20 \times 12\ 13-20$

Roof Elevations.

By the "pitch" of a roof is meant the relation which the height of the ridge above the level of the roof-plates bears to the span, or the distance between the studs on which the roof rests.

The length of rafters for the most common pitches can be found as follows from any given span:

If $\frac{1}{4}$ pitch, multiply span by 559, or 7-12 nearly,

If $\frac{1}{3}$ " " " " 6 " , or 3-5 "

If $\frac{2}{3}$ " " " " 625, or $\frac{5}{8}$ "

If $\frac{1}{2}$ " " " " 71 , or 7-10 "

If $\frac{3}{4}$ " " " " 8 , or 4-5 "

If full " " " " 12, or 1 $\frac{1}{2}$ "

To lengths thus obtained must be added amount of projection of rafters at the eaves.

As rafters must be purchased of even lengths, a few inches more or less on their lengths will make a difference to the pitch so slight that it cannot be detected by the eye.

EXAMPLE.—To determine the length of rafters for a roof constructed one-half pitch, with a span of 24 feet— $24 \times .71 = 17.04$; or, practically, just 17 feet. A projection of one foot for eaves makes the length to be purchased 18 feet.

How To Build Strong Frames.

Sheathing put on diagonally acts as a brace over the whole surface, and requires no more lumber than if put on horizontally. It is well to run the sheathing from each side up parallel with the rafters, if at the gable ends, and at similar angles at the sides. Roofing boards can be put on in the same manner. Studs can be allowed to project above the plates and the rafters spiked to the sides of studs. Partitions should be braced with waste stuff, and in such ways a building can be strengthened that it can be tolled over and over without coming to pieces, and the extra cost will simply consist in a few hours extra labor.

In some parts of the West, and especially in Nebraska, a framed sill is in use, which combines qualities that will make it of service to builders in many localities. A piece of 2×6 or 2×8 is laid upon the wall, and flush with one side of this a 2-inch piece of the same width as the joists is placed on edge and securely spiked on, thus making the bottom and one side of a trough. These can be fastened before being put in place. The joists are placed with their ends upon the bed of the sill and against the side, and spiked to both. The studs are halved down, in this case 8 inches, and nailed to side of sill and joists. The sides of the sill, running parallel with the joists, are formed by two of the joists themselves, either set flush with the face of the wall and the studs let down back, or set back two inches and the studs let down in front.

When the frame is finished, and before the floor is laid, the wall is built up behind and over the sill; thus holding all in place, guarding against wind, as the wall must be torn up before the building will go; and also, incidentally, against rats and other vermin. It will be found fully as strong and much cheaper than timber.

If posts are used for the foundation a modification of this arrangement will prove equally serviceable. The principal on which it depends is explained at length farther on. It is well known that a thin piece of timber put on edge, as in joists, etc., will support a much greater weight than if laid on its side. The strength of a piece is in direct proportion to the square of its depth and nearly inversely as its length. Thus it will be found that simply the 2×12 , 8 feet long, without considering the support afforded to it by the walls, would have a strength equal to four 2×4 s 16 feet long. It might be objected that the joists would not rest on the 2×12 , but on the 2×6 . This is partly true, but the joists are spiked to the 2×12 , and

are nailed to the studs, which rest on the sill, thus binding the whole together. Particular care must be taken to spike the 2x12 side of the sill to the 2x4 or 2x6 base at short intervals. All the parts must be well nailed together, and especially the studs to the joists, and the sills to the posts. This form will have abundant strength and stiffness if the posts are not over 8 feet apart. A sill constructed in this way, of these dimensions, contains the same number of feet as a 6x6 sill, but will sustain a weight a third greater than the latter, if the weights are placed at the centers, but as the studs are fastened together by the sheathing, the weight will be partly transferred from the sills to the posts. It can also be made of any lengths that will reach from post to post, and the cost can thus be made less.

Shingles Required in a Roof.

To the square foot it takes 9 if exposed four inches; 8 if exposed $4\frac{1}{2}$ inches, and 7 1-5 if exposed 5 inches to the weather.

Find the number of shingles required to cover a roof 38 ft. long, and the rafters on each side 14 ft. Shingles exposed $4\frac{1}{2}$ inches.

$28 \times 38 = 1064$ (sq. ft.) $\times 8 = 8512$ shingles. Ans.

To find the length of rafters, giving the roof *one-third* pitch: take *three-fifths* of the width of the building. If the building is 30 feet wide, they must be 18 feet long, exclusive of projection.

The following very useful and practical calculations will be found exceedingly handy, as guides to the builder, in making up his figures when he is called upon to estimate for all portions of a job, many of which are not entirely in his own particular line:

MASON WORK — BRICK.

$1\frac{1}{8}$ barrels lime and $\frac{5}{8}$ yard sand will lay 1,000 brick.

One man with $1\frac{1}{4}$ tenders will lay 1,800 to 2,000 brick per day.

RUBBLE.

$1\frac{1}{4}$ barrels lime and 1 yard of sand will lay 100 feet of stone.

One man will lay 150 feet of stone per day with one tender.

CEMENT.

$1\frac{1}{4}$ barrels cement and $\frac{3}{4}$ yard sand will lay 100 feet rubble stone. Same time as to mason and tender as rubble.

NUMBER OF NAILS REQUIRED IN CARPENTER WORK.

To case and hang one door, 1 lb.

To case and hang one window, $\frac{3}{4}$ lb.

Base, 100 lineal feet, 1 lb.

To put on rafters, joists, etc., 3 lbs. to 1,000 feet.

To put up studding, same.

To lay a 6-inch pine floor, 15 lbs. to 1,000 feet.

LABOR.

To place joists, etc., on wall, \$4 per 1,000.
 Put up jambs and case a door, \$1.50.
 Hanging door and locking, 50c. to 75c.
 Fitting sash, 50c. to 75c.
 Casing window, stool and apron, \$1.00.
 Hang outside blinds, 50c.
 Hang inside blinds, 75c.; if boxed, \$1.00.
 Lay pine floor, 6 in., 30c. per square.
 Lay pine floor, 4 in., 40c. per square.
 Lay walnut floor, 3 in., \$1 per square.
 Roof and sheathing, 25c. per square.
 To lay shingles, per 1,000, 75c. per square.

COST OF PAINTERS' WORK.

1 coat shellac, 50c. per square.
 1 coat lead and oil, 75c. per square.
 2 coats lead and oil, \$1.50 per square.
 3 coats lead and oil, \$2.50 per square.
 Sanding, 1 coat, 75c. per square.
 Grain oak, 2 coats, \$2.50 per square.
 Grain walnut, 2 coats, \$3 per square.
 To set glass, 10 per cent. of cost.
 Calcimining, 60c. to 75c. per square.
 1 coat varnish, 50c. per square.

Floor, Wall and Roof Measure.

To find the number of square yards in a floor or wall: **RULE—**
 Multiply the length by the width or height (in feet) and divide the product by 9; the result will be square yards.

ESTIMATES OF MATERIALS.

3½ barrels of lime will do 100 square yards plastering, two coats.
 2 " " " " 100 " " " one coat.
 1½ bushels of hair " 100 " " "
 1¼ yards good sand " 100 " " "
 ½ barrel of [plaster (stucco) will hard-finish 100 square yards plastering.
 1 barrel lime will lay 1,000 bricks. (It takes good lime to do it.)
 2 barrels of lime will lay 1 cord rubble stone.
 ½ barrel of lime will lay 1 perch rubble stone. (Estimating ¼ cord to perch.)
 To every barrel of lime estimate about ⅝ yard of good sand for plastering and brick work.

Hôtel des Invalides.—Veterans' home at Paris; built by Louis XIV.; contains the remains of Napoleon I.

THE LARGEST TELESCOPE in the world is the **Lord Rosse**, which has an aperture of seventy-two inches. The largest in this country is at San Jose, Cal., having an aperture of twenty-eight inches.

Useful Information for Architects and Builders.

NUMBER OF NAILS AND TACKS PER POUND.

NAILS.				TACKS.			
Size.		No.		Length.		No.	
		per lb.				per lb.	
6 penny,	fence	2	in 80 nails	1	oz.... $\frac{1}{3}$	inch....	16,000
8	"	$2\frac{1}{2}$	" 50 "	$1\frac{1}{4}$	" 3-16	"	10,666
10	"	3	" 34 "	2	" $\frac{1}{4}$	"	8,000
12	"	$3\frac{1}{4}$	" 39 "	$2\frac{1}{2}$	" 5-16	"	6,400
3	fine	$1\frac{1}{3}$	" 760 "	3	" $\frac{3}{8}$	"	5,333
3	"	$1\frac{1}{4}$	" 480 "	4	" 7-16	"	4,000
4	"	$1\frac{1}{2}$	" 300 "	6	" 9-16	"	2,666
5	"	$1\frac{3}{4}$	" 200 "	8	" $\frac{5}{8}$	"	2,000
6	"	2	" 160 "	10	" 11-16	"	1,600
7	"	$2\frac{1}{4}$	" 128 "	12	" $\frac{3}{4}$	"	1,333
8	"	$2\frac{1}{2}$	" 92 "	14	" 13-16	"	1,143
9	"	$2\frac{3}{4}$	" 72 "	16	" $\frac{7}{8}$	"	1,000
10	"	3	" 60 "	18	" 15-16	"	888
12	"	$3\frac{1}{4}$	" 44 "	20	" 1	"	800
16	"	$3\frac{1}{2}$	" 32 "	22	" 1 1-16	"	727
20	"	4	" 24 "	24	" $1\frac{1}{8}$	"	666
30	"	$4\frac{1}{4}$	" 18 "				
40	"	5	" 14 "				
50	"	$5\frac{1}{2}$	" 12 "				

1,000 shingles, laid 4 inches to the weather, will cover 100 square feet of surface, and 5 lbs. of shingle nails will fasten them on.

One-fifth more siding and flooring is needed than the number of square feet of surface to be covered, because of the lap in the siding and matching.

1,000 laths will cover 70 yards of surface, and 11 lbs. of lathe nails will nail them on; 8 bushels of good lime, 16 bushels of sand, and 1 bushel of hair, will make enough good mortar to plaster 100 square yards.

A cord of stone, 3 bushels of lime, and a cubic yard of sand, will lay 100 cubic feet of wall.

Five courses of brick will lay 1 foot in height on a chimney; 16 bricks in a course will make a flue 4 ins. wide and 12 ins. long, and 8 bricks in a course will make a flue 8 ins. wide and 16 ins. long.

Cement 1 bush. and sand 2 bush. will cover $3\frac{1}{2}$ sq. yds. 1 inch thick, $4\frac{1}{2}$ sq. yds. $\frac{3}{4}$ inch thick, and $6\frac{3}{4}$ sq. yds. $\frac{1}{2}$ inch thick; 1 bush. cement and 1 of sand will cover $2\frac{1}{4}$ sq. yds. 1 in. thick, 3 square yards $\frac{3}{4}$ inch thick, and $4\frac{1}{2}$ square yards $\frac{1}{2}$ inch thick.

Quantity of Bricks Required to Construct a Building.

Superficial Feet of Wall.	Number of Bricks to Thickness of					
	4 inch.	8 inch.	12 inch	16 inch	20 inch	24 inch
1.....	7	15	22	29	37	45
2.....	15	30	45	60	75	90
3.....	23	45	68	90	113	135
4.....	30	60	90	120	150	180
5.....	38	75	113	150	188	225
6.....	45	90	135	180	225	270
7.....	53	105	158	210	263	315
8.....	60	120	180	240	300	360
9.....	68	135	203	270	338	405
10.....	75	150	225	300	375	450
20.....	150	300	450	600	750	900
30.....	225	450	675	900	1,125	1,350
40.....	300	600	900	1,200	1,500	1,800
50.....	375	750	1,125	1,500	1,875	2,250
60.....	450	900	1,350	1,800	2,250	2,700
70.....	525	1,050	1,575	2,100	2,625	3,150
80.....	600	1,200	1,800	2,400	3,000	3,600
90.....	675	1,350	2,025	2,700	3,375	4,050
100.....	750	1,500	2,250	3,000	3,750	4,500
200.....	1,500	3,000	4,500	6,000	7,500	9,000
300.....	2,250	4,500	6,750	9,000	11,250	13,500
400.....	3,000	6,000	9,000	12,000	15,000	18,000

VALUE OF DIAMONDS.

Diamonds averaging one-half carat each, \$60 per carat.

Diamonds averaging three-quarters carat each, \$80 per carat.

Diamonds averaging one carat each, \$100 per carat.

Diamonds averaging one and one-quarter carats each, \$110 per carat.

Diamonds averaging one and one-half carats each, \$120 per carat.

Diamonds averaging one and three-quarters carats each, \$145 per carat.

Diamonds averaging two carats each, \$175 per carat.

In other words, the value of the gem increases in the geometrical ratio of its weight. Four diamonds weighing together two carats are worth \$120; but one diamond weighing just as much is worth \$350. Stones weighing over two carats are about the same price per carat as two-carat stones: they should be dearer, but they are not, simply because the demand for them is limited. If the demand for diamonds were as imperative as the demand for flour or beef, the geometrical ratio would again come into play, and five-carat stones would be valued in the thousands.

TABLE showing the requisite sizes of girders and joists for warehouses, the span and distance apart being given:

Distance apart.	SPAN OF GIRDERS.				Joists.	REMARKS.
	6 Feet.	8 Feet.	10 Feet.	12 Feet.		
Feet.	Inches.	Inches.	Inches.	Inches.	Inches.	
10	8x12	12x13	12x16	14x18	2½x10	Girders to have a bearing at each end and joists six inches.
12	9x12	12x14	12x18	16x18	3 x10	
14	10x12	12x15	14x18	.....	3 x12	

TABLE showing quantity of lumber in every four lineal feet of partition, studs being placed 16 centers, waste included:

Height of Partition. Feet.	Quantity of Studs 2x4 Feet.	If 2x6 Feet.
8	20	30
9	23	34
10	26	38
11	29	42
12	32	46
13	35	51
14	38	55
15	41	59
16	44	64

TABLE as before, adapted for churches, public halls, etc.

Distance apart.	SPAN OF GIRDERS.				Joists.	REMARKS.
	6 Feet.	8 Feet.	10 Ft.	12 Ft.		
Feet.	Inches.	Inches.	Inches.	Inches.	Inches.	
12	6x10	8x12	12x14	12x16	2 x 8	
13	6x11	9x12	11x15	12x17	2 x 9	
14	6x12	10x12	12x15	11x18	2 x 9	
15	7x12	11x12	11x16	12x16	2 x 10	
16	8x12	12x12	12x16	13x18	2 x 10	
17	8x12	9x14	12x17	14x18	2 x 12	
18	9x12	10x14	11x18	.....	2 x 12	
19	9x12	11x14	12x18	.....	2 1/2 x 12	
20	10x12	12x14	13x18	.....	2 1/2 x 12	
21	10x12	11x15	14x18	.....	2 1/2 x 12	
22	11x12	12x15	.....	.....	3 x 12	
23	11x12	11x16	.....	.....	3 x 12	
24	10x12	12x16	.....	.....	3 x 13	
25	10x13	12x17	.....	.....	3 x 13	
26	10x14	12x18	.....	.....	3 x 14	
27	10x14	12x18	.....	.....	3 x 14	

Bearings of girders and joists as above.

Both tables are calculated for yellow pine.

The Use of the Steel Square.

The standard steel square has a blade 24 inches long and 2 inches wide, and a tongue from 14 to 18 inches long and $1\frac{1}{2}$ inches wide. The blade is exactly at right angles with the tongue, and the angle formed by them an exact right angle, or square corner. A proper square should have the ordinary divisions of inches, half inches, quarters and eighths, and often sixteenths and thirty-seconds. Another portion of the square is divided into twelfths of an inch; this portion is simply a scale of 12 feet to an inch, used for any purpose, as measuring scale drawings, etc. The diagonal scale on the tongue near the blade, often found on squares, is thus termed from its diagonal lines. However, the proper term is centesimal scale, for the reason that by it a unit may be divided into 100 equal parts, and therefore any number to the 100th part of a unit may be expressed. In this scale A B is one inch; then, if it be required to take off 73-100 inches, set one foot of the compasses in the third parallel under 1 at E, extend the other foot to the seventh diagonal in that parallel at G, and the distance between E G is that required, for E F is one inch and F G 73 parts of an inch.

Upon one side of the blade of the square, running parallel with the length, will be found nine lines, divided at intervals of one inch into sections or spaces by cross lines. This is the plank, board and scantling measure. On each side of the cross lines referred to are figures, sometimes on one side of the cross line and often spread over the line, thus, 1 | 4—9 | — We will suppose we have a board 12 feet long and 6 inches wide. Looking on the outer edge of the blade we find 12; between the fifth and sixth lines, under 12, will be found 12 again; this is the length of the board. Now follow the space along toward the tongue till we come to the cross line under 6 (on the edge of the blade), this being the width of the board; in this space will be found the figure 6 again, which is the answer in board measure, viz., six feet.

On some squares will be found on one side of the blade 9 lines, and crossing these lines diagonally to the right are rows of figures, as seven 1s, seven 2s, seven 3s, etc. This is another style of board measure and gives the feet in a board according to its length and width.

In the center of the tongue will generally be found two parallel lines, half an inch apart, with figures between them; this is termed the Brace Rule. Near the extreme end of the tongue will be found 24-24 and to the right of these 33.95. The 24-24 indicate the two sides of a right-angle-triangle, while the length of the brace is indicated by 33.95. This will explain the use of any of the figures in the brace rule. On the opposite side of the tongue from the brace rule will generally be found the octagon scale, situated between two central parallel lines. This space is divided into intervals and numbered thus; 10, 20, 30, 40, 50, 60. Suppose it becomes necessary to describe an octagon ten inches square; draw a square ten inches each way and bisect the square with a horizontal and perpendicular center line. To find the length of the octagon line, place one point of the compasses on any of the main divisions of the scale and the other leg or point on the tenth subdivision. This

length being measured off on each side of center lines, touching the line of the octagon, will give the points from which to draw the octagonal lines. The size of the octagon must equal the number of spaces taken off from the tongue by the compasses.

Weight of a Cubic Foot of Earth, Stone, Metal, &c.

<i>Article.</i>	<i>Lbs.</i>	<i>Article.</i>	<i>Lbs.</i>
Alcohol.....	49	Lead, cast.....	709
Ash Wood.....	53	Lead, rolled.....	711
Bay Wood.....	51	Milk.....	64
Brass, gun metal.....	543	Maple.....	47
Brandy.....	58	Mortar.....	110
Beer.....	65	Mud.....	102
Blood.....	66	Marble, Italian.....	169
Brick, common.....	102	Marble, Vermont.....	165
Cork.....	15	Mahogany.....	66
Cedar.....	35	Oak, Canadian.....	54
Copper, cast.....	547	Oak, live, seasoned.....	67
Copper, plates.....	543	Oak, white, dry.....	54
Clay.....	120	Oil, linseed.....	59
Coal, Lehigh.....	56	Pine, yellow.....	34
Coal, Lackawanna.....	50	Pine, white.....	34
Cider.....	64	Pine, red.....	37
Chestnut.....	38	Pine, well seasoned.....	30
Ebony.....	83	Platina.....	1,219
Earth, loose.....	94	Red Hickory.....	52
Glass, Window.....	165	Silver.....	625 $\frac{3}{4}$
Gold.....	1,203 $\frac{3}{4}$	Steel, plates.....	487 $\frac{3}{4}$
Hickory, pig nut.....	49	Steel, soft.....	489
Hickory, shell-bark.....	43	Stone, common, about.....	158
Hay, bale.....	9	Sand, wet, about.....	128
Hay, pressed.....	25	Spruce.....	31
Honey.....	90	Tin.....	455
Iron, cast.....	450	Tar.....	63
Iron, plates.....	481	Vinegar.....	67
Iron, wrought bars.....	486	Water, salt.....	64
Ice.....	57 $\frac{1}{2}$	Water, rain.....	62
Lignum Vitæ Wood.....	83	Willow.....	36
Logwood.....	57	Zinc, cast.....	428

To Cut a Hole in Hard Steel.—An authority says: Sometimes I have had to make holes in steel that was too hard to cut or file easily. Then I make a chemical mixture that will cut a hole. I mix one ounce of sulphate of copper, a quarter of an ounce of alum, half a tea-spoonful of powdered salt, a gill of vinegar and twenty drops of nitric acid. This will cut a hole in any steel, or, if washed off quickly, it will give a beautiful frosted appearance to the metal.

Cost of Tin Roofing per Square and per Square Foot.

The following table shows the cost per square and per square foot of tin roofing, laid with 14x20 tin, with tin at any price from \$4 to \$10 per box. The first column contains the price per box of tin; the second column shows the cost of tin per square (100 square feet) of surface, and the third column shows the cost of tin per square foot of surface:

FLAT SEAM ROOFING--COST WITH 14x20 TIN.

Price of Tin per box.	Cost per square of flat roof 14x20 Tin.	Cost per sq. foot.	Price of Tin per box.	Cost per square of flat roof 14x20 Tin.	Cost per sq. foot.
\$4.25.....	\$2.21.....	.0221	\$ 8.25.....	\$4.29.....	.0420
4.50.....	2.34.....	.0234	8.50.....	4.42.....	.0442
4.75.....	2.47.....	.0247	8.75.....	4.55.....	.0455
5.00.....	2.60.....	.0260	9.00.....	4.68.....	.0468
5.25.....	2.73.....	.0273	9.25.....	4.81.....	.0481
5.50.....	2.86.....	.0286	9.50.....	4.94.....	.0494
5.75.....	2.99.....	.0299	9.75.....	5.07.....	.0507
6.00.....	3.12.....	.0312	10.00.....	5.20.....	.0520
6.25.....	3.25.....	.0325	10.25.....	5.33.....	.0533
6.50.....	3.38.....	.0338	10.50.....	5.46.....	.0546
6.75.....	3.51.....	.0351	10.75.....	5.59.....	.0559
7.00.....	3.64.....	.0364	11.00.....	5.72.....	.0572
7.25.....	3.77.....	.0377	11.25.....	5.85.....	.0585
7.50.....	3.90.....	.0390	11.50.....	5.98.....	.0598
7.75.....	4.03.....	.0403	11.75.....	6.11.....	.0611
8.00.....	4.16.....	.0416	12.00.....	6.24.....	.0624

STANDING SEAM ROOFING--COST WITH 14x20 TIN.

Price of Tin per box.	Cost per Square of stand'g seam roof with 14x20 Tin.	Cost per sq. foot	Price of Tin per box.	Cost per square of stand'g seam roof with 14x20 Tin.	Cost per sq. foot.
\$4.25.....	\$2.37.....	.0237	\$ 7.25.....	\$4.03.....	.0403
4.50.....	2.51.....	.0251	7.50.....	4.17.....	.0417
4.75.....	2.65.....	.0265	7.75.....	4.31.....	.0431
5.00.....	2.79.....	.0279	8.00.....	4.45.....	.0445
5.25.....	2.93.....	.0293	8.25.....	4.59.....	.0459
5.50.....	3.06.....	.0306	8.50.....	4.73.....	.0473
5.75.....	3.20.....	.0320	8.75.....	4.87.....	.0487
6.00.....	3.34.....	.0334	9.00.....	5.01.....	.0501
6.25.....	3.48.....	.0348	9.25.....	5.15.....	.0515
6.50.....	3.62.....	.0362	9.50.....	5.29.....	.0529
6.75.....	3.76.....	.0376	9.75.....	5.43.....	.0543
7.00.....	3.90.....	.0390	10.00.....	5.57.....	.0557

Cost of Tin Roofing per Square—con- tinued.

FLAT SEAM ROOFING—COST WITH 20x28 TIN.

Price of Tin per box.	Cost per square of flat roof 20x28 Tin.	Cost per sq. foot.	Price of Tin per box.	Cost per square of flat roof 20x28 Tin.	Cost per sq. foot.
\$8.00.....	\$2.07.....	.0201	\$16.00.....	\$4.01.....	.0401
8.50.....	2.13.....	.0213	16.50.....	4.13.....	.0413
9.00.....	2.26.....	.0226	17.00.....	4.26.....	.0426
9.50.....	2.38.....	.0238	17.50.....	4.38.....	.0438
10.00.....	2.51.....	.0251	18.00.....	4.51.....	.0451
10.50.....	2.63.....	.0263	18.50.....	4.63.....	.0463
11.00.....	2.76.....	.0276	19.00.....	4.76.....	.0476
11.50.....	2.88.....	.0288	19.50.....	4.88.....	.0488
12.00.....	3.00.....	.0300	20.00.....	5.01.....	.0501
12.50.....	3.13.....	.0313	20.50.....	5.13.....	.0513
13.00.....	3.25.....	.0325	21.00.....	5.26.....	.0526
13.50.....	3.38.....	.0338	21.50.....	5.38.....	.0538
14.00.....	3.50.....	.0350	22.00.....	5.51.....	.0551
14.50.....	3.63.....	.0363	22.50.....	5.63.....	.0563
15.00.....	3.75.....	.0375	23.00.....	5.76.....	.0576
15.50.....	3.88.....	.0388			

STANDING SEAM ROOFING—COST WITH 20x28 TIN.

Price of Tin per box.	Cost per square of standi'g seam roof with 20x28 Tin.	Cost per sq. foot.	Price of Tin per box.	Cost per square of standi'g seam roof with 20x28 Tin.	Cost per sq. foot.
\$8.00.....	\$2.15.....	.0215	\$16.50.....	\$4.42.....	.0442
8.50.....	2.28.....	.0228	17.00.....	4.56.....	.0456
9.00.....	2.41.....	.0241	17.50.....	4.69.....	.0469
9.50.....	2.55.....	.0255	18.00.....	4.82.....	.0482
10.00.....	2.68.....	.0268	18.50.....	4.96.....	.0496
10.50.....	2.82.....	.0282	19.00.....	5.09.....	.0509
11.00.....	2.95.....	.0295	19.50.....	5.23.....	.0523
11.50.....	3.09.....	.0309	20.00.....	5.36.....	.0536
12.00.....	3.21.....	.0321	20.50.....	5.49.....	.0549
12.50.....	3.35.....	.0335	21.00.....	5.63.....	.0563
13.00.....	3.48.....	.0348	21.50.....	5.76.....	.0576
13.50.....	3.62.....	.0362	22.00.....	5.90.....	.0590
14.00.....	3.75.....	.0375	22.50.....	6.03.....	.0603
14.50.....	3.89.....	.0389	23.00.....	6.17.....	.0617
15.00.....	4.02.....	.0402	23.50.....	6.30.....	.0630
15.50.....	4.15.....	.0415	24.00.....	6.43.....	.0643
16.00.....	4.29.....	.0429			

GREAT LIBRARIES OF THE WORLD.

	No. of Volumes.		No. of Volumes
National, Paris..	2,500,000	Imperial, Vienna.....	450,000
British Mus'm, London.	1,600,000	Bodleian, Oxford.....	450,000
Imperial, St. Peters- burg.....	1,000,000	Public, St. Petersburg..	440,000
Munich.....	1,000,000	Stuttgart.....	430,000
Berlin.....	800,000	Gottingen.....	425,000
Library of Congress, Washington*.....	680,000	National, Florence.....	425,000
Public, Boston*....	560,000	Madrid.....	410,000
Darmstadt.....	550,000	Buda-Pest.....	400,000
Leipsic.....	550,000	University of Chicago *	380,000
Strasburg.....	525,000	Harvard University *	300,000
Royal, Copenhagen....	500,000	Heidelberg.....	300,000
		Astor, New York *	240,000
		Vatican, Rome.....	225,000

*Exclusive of pamphlets. The Harvard University Library has 278,000, and the Library of Congress 210,000 pamphlets.

NOTABLE BRIDGES OF THE WORLD.

Sublician Bridge at Rome, oldest wooden bridge; 7th century. Twice rebuilt, but ruins only remain.

The bridge at Burton over the Trent; once the longest bridge in England; 1,545 feet.

The old London Bridge was the first stone bridge; commenced in 1176. completed in 1209.

The Niagara Suspension Bridge was built by Roebling in 1852-55. Cost \$400,000; 245 feet above water; 1,268 feet long; estimated 1,200 tons.

The Brooklyn Bridge was commenced under the direction of J. Roebling in 1870, and completed in about thirteen years; 3,475 feet long, 135 high. Cost \$15,000,000.

The Canti-Lever Bridge, 1884, over the Niagara. steel. Length, 910 feet; weight, 3,000 tons. Cost \$222,000.

Rush-street Bridge, Chicago, 1884. The largest general traffic draw-bridge in the world. Will accommodate four teams abreast, and its foot passages are 7 feet wide in the clear. Cost \$132,000.

Cincinnati, over the Ohio River (suspension), 2,220 feet long.

Highbridge, Harlem (stone), 1,460 feet long.

Victoria Bridge at Montreal over the St. Lawrence River (tubular): 9,144 feet long.

Louisville, over the Ohio River (truss), 5,218 feet long.

St. Louis, over the Mississippi River (steel), 2,045 feet long. Cost over \$6,000,000.

Trajan's, over the Danube River (stone), 4,770 feet long.

The Bridge of the Holy Trinity, Florence, built in 1569 of marble: 322 feet long.

IMPORTANT EVENTS OF THE LATE CIVIL WAR.

Casualties, etc.

1861.

April 12th—The first shot of the Rebellion was fired at Fort Sumter, by order of General Beauregard (Pierre Gustave Toutant) at 4:30 a. m.

April 15th—President Lincoln issues a proclamation calling for 75,000 volunteers to put down the rebellion, and orders all rebels to return to loyalty in twenty days.

May 3d—President Lincoln calls for 42,000 three years' volunteers, 22,000 troops for regular army service, to serve during the war, and 18,000 men for the navy.

June 4th—Harper's Ferry is evacuated by the Confederates.

June 20th—General McClellan is appointed Commander of the army in western Virginia.

July 1st—United States asks for a war loan of \$250,000,000.

July 21st—Battle of Bull's Run.

July 22d—General McClellan takes command of the Army of the Potomac.

November 1st—McClellan becomes Commander-in-Chief of the armies of the United States.

November 18th—The Confederate Congress meets at Richmond.

November 30th—Jefferson Davis is elected President of the Confederate States for a term of six years.

1862.

February 16th—General Grant captures Fort Donelson.

February 22d—Jefferson Davis is inaugurated President of the Confederate States, at Richmond, with A. H. Stephens as Vice-President.

February 23d—Nashville, Tenn. is captured by General Grant.

April 6th—Battle at Pittsburg landing; General Grant is driven from his position.

April 7th—General Grant regains his position. The valiant General Johnstone was killed in this battle.

April 24th—New Orleans was taken by a double force. The naval force under Commodore Farragut, aided by a land force under General Butler.

May 1st—General Butler enters New Orleans and proclaims martial law.

July 1st—President Lincoln calls for 300,000 volunteers.

August 8th—The Habeas Corpus Act is suspended.

1862.

September 1st—Battle of Chantilly is fought in a thunder-storm. General Kearney is killed.

September 5th—General Lee crosses the Potomac and marches to Frederic.

September 22d—President Lincoln issues his famous Proclamation of Emancipation.

1863.

January 1st—Emancipation Proclamation takes effect. 3,125,000 slaves are made free.

March 12th—The Conscription Act is passed, giving the President about 4,000,000 of men on whom he may call for service.

April 1st—Admiral Farragut makes his heroic march past the Gulf batteries.

April 6th—The market prices of Richmond of this date, show the value of common commodities: Apples, \$50 per bbl.; butter, \$3 per lb.; round of bacon, \$1.40; ham, \$1.45; brandy and whiskey, \$22 to \$30 per gal.; corn, \$7.50 per bu.; candles, \$3 per lb.; coffee, \$4.50 per lb.; flour, \$32 to \$36 per bbl.; sugar, \$1.30 per lb.

May 2d—Battle of Chancellorsville.

May 10th—"Stonewall" Jackson dies.

July 1st—The awful battle of Gettysburg, the most stubbornly fought of the war begins. This was the turning point of the great conflict.

July 4th—The battle of Gettysburg ends. Vicksburg surrenders.

November 24th—Battle of Lookout Mountain.

1864.

March 9th—General Grant becomes Lieutenant-General in command of all the armies.

June 16th—The "Alabama" attacked by the "Kearsarge" and sinks off Cherbourg, France.

September 19th—Battle of Winchester. Sheridan captures 5,000 prisoners and all the guns.

November 8th—Abraham Lincoln is re-elected President with the electoral vote of twenty-two states. 213 votes in all.

November—General Sherman commences his grand march from Atlanta to the sea.

1865.

February 7th—General Lee assumes supreme control of all the Confederate forces.

March 25th—Battle of Five Forks begins.

April 8th—Lee surrenders to General Grant at the Appomattox Court House.

April 12th—The Union flag waves once more above Fort Sumter.

DATE.	APRIL, 1861.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P-M	K.	W.	P-M
12	Bombardment of Fort Sumter. No casualties.....						
15	Evacuation of Ft. Sumter, S.C.	1	3				
19	Riots in Baltimore, Md.....	4	20		9		
	MAY.						
2	N. Y. 69th Regiment arrived in Washington.....						
5	Gen. Butler took possession of Relay House.....						
10	Camp Jackson, Mo.....						639
10	Riots in St. Louis, Mo.....	4			27		
11	Charleston blockade establs'd						
17	C. S. Cong. authorized issue of \$50,000,000 8% 20-year bonds						
29	Pres't Davis reached Richm'd						
31	Cavalry skirmish at Fairfax C. H. Va.....						
	JUNE.						
1	Fairfax Court House, Va. . . .	1	4		1	14	
3	Phillippi, West Virginia.....		2			16	
10	Big Bethel, Va.....	16	34		1	7	
11	*Romney, West Virginia.....		1		2	1	
14	Confederates evacuate and burn Harper's Ferry, Va....						
17	Vienna, Virginia.....	5	6		6		
17	*Boonville, Mo.....	2	19		15	20	
17	Edward's Ferry. Md.....	1	4		15		
18	Camp Cole, Mo.....	15	52		4	20	
23	48 B. & O. R. R. locomotives, valued at \$400,000, destroyed by the Confederates.....						
26	Patterson Creek, Va.....	1	1		7	2	
27	Matthias' Point, Va.....	1	4				
29	General council of war held at Washington.....						
	JULY.						
2	Falling Waters, Md.....	8	15		31	50	
5	*Carthage, or Dry Forks, Mo.	13	31		40	125	45
5	Newport News.....		6			6	
5	President Lincoln called for 400,000 men and \$400,000,000 to put down the rebellion...						
6	Middle Creek Fork, W. Va...	1	6		7		
7	Great Falls, Va.....	2			12		
8	Laurel Hill, W. Va.....	2	6				
10	Monroe Station, Mo.....	3			4	20	75
11	*Rich Mt., Va. (Camp lost and						

DATE.	JULY, 1861.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P-M	K.	W.	P-M
	150 prisoners taken.).....	11	35		60	140	100
12	Barboursville, or Red House, Va.....	1			10		
12	Beverly, W. Va.....						600
14	Carrick's Ford, W. Va.....	13	40		20	10	50
16	Millsville, or Wentzville, Mo.	7	1		7		
17	Fulton, Mo.....	1	15				
17	Scarrytown, W. Va.....	9	38				
17	Martinsburg, Mo.....	1	1				
17	Bunker Hill, Va.....				4		
18	Blackburn's Ford, Va.....	19	38		15	53	
19	Harrisonville and Parkersville, Mo.....	1			14		
21	†Bull Run, or Manassas, Va...	481	1011	1460	269	1483	
22	Forsyth, Mo.....		3		5	10	
24	Blue Mills, Mo.....	1	12				
26	Lane's Prairie, near Rolla, Mo.		3		1	3	
27	Ft. Fillmore, New Mexico....			420			
	AUGUST.						
2	Dug Springs, Mo.....	4	37		40	44	
3	Messilla, New Mexico.....	3	6		12		
5	Athens, Mo.....	3	8		14	14	
5	Point of Rocks, Md.....				3	2	
7	Hampton, Va.....				3	6	
8	*Lovettsville, Va.....				1	5	
10	*Wilson's Creek, Mo. (Gen. Lyon killed.).....	223	721	291	205	800	50
11	Potosi, Mo.....	1			2	3	
14	Martial law declared at St. Louis, Mo.....						
17	Brunswick, Mo.....	1	7				
19	Charleston, or Bird's Pt., Mo.	1	6		40		
20	*Hawk's Nest, W. Va.....		3		1	3	
26	Cross Lanes, or Somerville, W. Va.....	5	40	200			
27	Ball's Cross Roads, Va.....	1	2				
28-9	*Ft. Hatteras, N. C.....	1	2		5	51	715
29	Lexington, Mo.....				8		
31	Munson's Hill, Va.....	2	2				
	SEPTEMBER.						
1	Bennett's Mills, Mo.....	1	8				
1	Boone Court House, W. Va...		6		30		
2	Dallas, Mo.....	2					
2	Dry Wood, or Ft. Scott, Mo..	4	9				
2	Beher's Mills, Mo.....				3	5	
6	Paducah, Ky., occupied by Union forces.....						

DATE.	SEPTEMBER, 1861	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P-M	K.	W.	P-M
10	Carnifex Ferry.....	16	102				
11	Lewinsville, Va.....	6	8				
12	Black River, near Ironton, Mo.				5		
13	Cheat Mountain, W. Va.....	9	12			80	
13	Booneville, Mo.....	1	4		12	30	
14	Confed. privateer Judah destroyed near Pensacola, Fla.	3	15				
15	Pritchard's Mills, Va.....	1			8	75	
12-	20. †Lexington, Mo.....	42	108	1624	25	75	
17	Morristown, Mo.....	2	6		7		
17	Blue Hills, Mo.....	11	39		10	60	
18	Banks of New Orleans suspend specie payment.....						
18	Barbourville, W. Va.....	1	1		7		
21	†Ball's Bluff, Va. (Col. Baker killed.).....	220	266	500	36	264	2
22	Poppinsville, or Osceola, Mo.	17					
22	Elliott's Mills, Mo.....	1	5				
23	*Romney, or Hanging Rock, W. Va.....	3	50		35		
25	Chapmansville, W. Va.....	4	9		20	50	
26	Lucas Bend, Ky.....				4		
29	Munson's Hill.....	9	25				
	OCTOBER.						
3	Grienbrier, W. Va.....	8	32		100	75	
4	Ft. Craig, New Mexico.....				11	30	
4	Buffalo Hill, Ky.....	20			50		
8	Hillsboro, Ky.....	3	2		11	29	
9	Santa Rosa, Fla.....	14	29			350	
12	Cameron, Mo.....	1	4		8		
12	Upton Hill, Ky.....				5	3	
12	Bayles Crossroads, La.....		4				
13	Beckwith Farm, Mo.....	2	5		1	2	
13	West Glaze, Mo.....				62		
15	Big River Br'ge, nr. Potosi, Mo.	1	6	33	5	4	
15	Lime Creek, Mo.....				63	40	
16	Bolivar Heights, Mo.....	4	7				
16	Warsaw, Mo.....				3		
17-	21. Fr'd'ckst'n and P'nton, Mo.	6	60			200	
19	Big Hurricane Creek, Mo.....	2	14		14		
21	Bell's Bluff; called Edwards Ferry, or Har'sn's Ln'dg, Va.	223	226	445	36	264	
22	Buffalo Mills, Mo.....				17		
23	West Liberty, Ky.....		2		10	5	
23	Hodgeville, Ky.....		3		3	5	
25	Zagonyi's ch'ge, Spr'gfield, Mo.	18	37		100		
26	Romney, or Mill Creek, W. Va.	2	15		20	15	30

DATE.	OCTOBER, 1861.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P.	K.	W.	P.
26	Saratoga, Ky.....		4		8	17	
27	Plattsburg, Mo.....				8		
27	Spring Hill, Mo.....		5				
29	Woodbury and Morgant'n, Ky.		1				
	NOVEMBER.						
1	Winfield Scott, Com. U. S. army, retired, and Maj.-Gen. Geo. B. McClellan app'nted..						
2	Renick, Randolph Co., Mo....		14				
5	Little Santa Fe, Mo.....	2	6				
7	*Belmont, Mo.....	90	173	235	261	427	398
7	Galveston Harbor, Tex.....	1	8			3	
7	*Port Royal, S. C.....	8	23		11	39	
9	*Piketown, or Fry Mtn., Ky. (70 wagons, stores, and eq'p'gs.)	4	26		18	45	208
10	Guyandotte, W. Va.....	7	20		3	10	
10	Gauley Bridge, W. Va.....	2	16				
11	Little Blue, Mo.....	7	9				
12	Occoguan Creek, Va.....	3	1				
17	Cypress Bridge, Ky.....	10	15				
18	Palmyra, Mo.....				3	5	
19	Wirt Court House, W. Va.....				1	5	
19	Eng. packet Trent boarded by Capt. Wilkes, and Mason and Slidell captured. On the 24th inst. they were placed in Ft. Warren, Boston Harbor; released Jan. 1, 1862, on a de- mand of the British govt....						
23	Ft. Pickens, Pensacola, Fla...	3	7		5	23	
24	Lancaster, Mo.....	1	2		13		
26	Little Blue, Mo.....	1	1				
26	Drainesville, Va.....				2		
29	Black Walnut Creek, Mo.....		15		17		
	DECEMBER.						
3	Salem, Mo.....	6	10		16	20	
3	Vienna, Va.....				1		
4	Anandale, Va.....	1			17		
4	Dunksburg, Mo.; citizens re- pulse raiders.....				7	10	
9	Congress passed bill authoriz'g exchange of prisoners.....						
10	Shelling of Free Stone Point by Union gunboats.....						
11	Bertrand, Mo.....						
13	Camp Allegheny, or Buffalo Mt., W. Va.....	20	107		20	90	

DATE.	DECEMBER, 1861.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P-M	K.	W.	P-M
17	Rowlett's Station, Ky.....	10	22		33	50	
18	*Milford, Blackwater, Mo....	2	8				1300
20	Drainsville, Va.....	7	61			43	143
21	Hudson, Mo.....		5		10		
22	Wadesburg, Mo.....		2				
28	Sacramento, Ky.....	1	8		30		
28	Mt. Zion, Mo.....	5	63		25	150	
30	Banks of New York, Philadel- phia, Albany, and Boston sus- pend specie payment.....						
	JANUARY, 1862.						
1	Port Royal, S. C.....	1	10				
4	Huntersville, Va.....		1		1	7	
4	Near Bath, Va.....	2	2			30	
4	Calhoun, Mo.....		10			30	
7	Blue Gap, near Romney, Va..				15		
7	Jennie's Creek, Ky.....	3	1		6	14	
8	Charleston, Mo.....	8	16				
8	Dry Forks, W. Va.....		6		6		
8	Silver Creek, Mo.....	5	6			80	
9	Columbus, Mo.....	5					
10	Middle Creek, Ky.....	2	25		40		
19-	20. *Mill Springs, Ky. (Gen. Zolicoffer killed).....	38	194		100	160	
22	Knob Noster, Mo.....	1					
29	Occoguan Bridge, Mo.....	1	4		10		
	FEBRUARY.						
1	Bowling Green, Ky.....	3	2				
6	*Fort Henry, Tenn.....		40		5	11	
8	Linn Creek, Va.....	1	1		8	7	
8	*Roanoke Island, N. C. (Sur- render of Ft. Henry, Tenn., to Federal army).....	35	200		16	39	2527
10	Elizabeth City, N. C.....	3					
13	Blooming Gap, Va.....	2	5		13		
14	Flat Lick Fords, Ky.....				4	4	
14-	15, 16. *Ft. Donnelson, Tenn. (6 forts, 65 guns, and 17,500 small arms captured, and 13,829 Conf. w. and m.).....	446	1735	150	231	1007	
17	Pea Ridge, Mo.....	5	9				
18	Independence, Mo.....	1	3		4	5	
21	Ft. Craig, New Mexico.....	62	140			150	
24	Mason's Neck, Va.....	2	1				
25	Keytersville, Mo.....	2	1		1		
	MARCH.						
2	Pittsburg Landing, Tenn.....	5	5		20	200	

DATE.	MARCH, 1862.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P-M	K.	W.	P-M
3	New Madrid, Mo.....	1	3				
6	Occoguan, Va.....	2	2				
7	7, 8. *Pea Ridge, Ark.....	203	972	174	1100	2500	1600
7	Fox Creek, Mo.....		5				
8	Near Nashville, Tenn.....	1	2		4		
9	Mountain Grove, Mo.....	10	2				
9	Hampton Roads, Va.....	261	108		7	17	
10	Burke's Station, Va.....	1			3	5	
10	Jacksb'o, Big Creek Gap, Tenn.		2		2	4	
11	Paris, Tenn.....	5	5			10	
12	Lexington, Mo.....	1	1		9	3	
12	Near Lebanon, Mo.....				13	3	
13	New Madrid, Mo.....		50			100	
14	*Newberne, N. C.....	91	466		64	106	419
16	Black Jack Forest, Tenn.....		4				
18	Salem, or Spring River, Ark...	5	10		100		
21	Mosquito Inlet, Fla.....	8	8				
22	Independence, Mo.....	1	2		7		
23	Carthage, Mo.....		1				
23	*Winchester, Va. (Gens. Mc- Intosh, McCulloch and Slack killed).....	103	440	24	80	342	269
26	Warrensburg, Mo.....	1	22		9	17	
26	Humonsville, Mo.....		5			15	
26-	27, 28. Near Santa Fe, N. M.	32	75	35	36	60	93
28	Warrensburg, Mo.....	3	1		15		
	APRIL.						
2	Putnam's Ferry, Mo.....				3		
4	Great Bethel, Va.....	4	10				
4	Crump's Landing, Tenn.....		2			20	
6-7	*Shiloh, or Pittsb'g Ld'g, Tenn.	1735	7882	3950	1728	8012	959
8	*Island No. 10, Tenn. (6 forts captured).....				17		6000
8	Near Corinth, Miss.....				15	25	200
9	Owens River, Cal.....	1	2				
10	*Ft. Pulaski, Ga.....	1				4	360
11	Huntsville, Ala.....						200
11	Yorktown, Va.....	2	8				
12	Little Blue River, Mo.....				5		
12	Monterey, Va.....		3				
14	Pollocksville, N. C.....					7	
14	Diamond Grove, Mo.....		1				
14	Walkersville, Mo.....	2	3				
14	Monta Vallo, Mo.....	2	6		2	10	
15	Pechach's Pass, Ariz.....	3	3				
16	Savannah, Tenn.....				5	65	
26	Wilmington Island, Ga.....	10	35		5	7	

DATE.	APRIL, 1862.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	T.	K.	W.	T.
16	Lee's Mills, Va.....	35	129		20	75	30
17	Holly River, W. Va.....		3		2		
18	Falmouth, Va.....	5	16				10
18	Edisto Island, S. C.....		3				
18-	28. Fts. Jackson and St. Phillip and the capture of New Or- leans, La.....	36	193		185	197	400
19	Talbot's Ferry, Ark.....	1			3		
19	Camden, N. C.....	12	98		6	19	
23	Grass Lick, W. Va.....	3					
25	Ft. Macon, N. C.....	1	11		7	18	430
26	Turnback Creek, Mo.....	1					
26	Neosha, Mo.....	3	3		30		60
26	Com. Farragut demanded the surrender of New Orleans..						
26	In front of Yorktown, Va.....	3	16				
27	Norton's Mills, N. C.....	1	6			3	
28	Paint Rock R.R. Bridge, Tenn.	7					
28	Cumberland Mountain, Tenn.						
28	Monterey, Tenn.....	1	3		5		
29	Bridgeport, Ala.....				72		300
	MAY.						
	New Orleans capt'd by Union soldiers						
1	Clarke's Hollow, West Va....	1	21				
3	Farmington, Miss.....	2	12		30		
4	Licking, Mo.....	1	2				
4	Cheese Cake Church, Va.....						
5	Lebanon, Tenn.....	6	25				60
5	Lock Ridge Mills, Ky.....	4	16	68			
5	* Williamsburg, Va.....	450	1400	372	1000		
7	West Point, Va.....	40	104	41			
7	Somerville Heights, Va.....	2	7	24			
8	McDowell or Bull Pasture, Va.	28	225		100	200	
8	Corinth, Miss.....	1	4		30		
9	Elk Station, Ala.....	5		43	16		
9	New Kent C. H., Va.....	4	3		10	14	
10	Port Pillow, Tenn.....		3		2	1	
10	Surrender of Norfolk, Va.....						
10	Gen. Butler captured \$800,000 in Gold at New Orleans.....						
11	Bloomfield, Mo.....			1			
13	Monterey, Tenn.....		2		2	3	
15	Linden, Va.....	1	3	14			
15	Fort Darling, James River, Va.	12	14		7	8	
15	Clalk Bluff, Mo.....	1	3				
15	Butler, Bates Co., Mo.....	3	1				

DATE.	MAY, 1862.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P-M	K.	W.	TOTAL
15-8	Princeton, West Va.....	30	70		2	14	
17	Corinth, Miss.....	10	39		12		
19	Searcy Landing, Ark.....	18	17		150		
19	Clinton, N. C.....		5		9		
21	Phillips Creek, Miss.....		3				
22	Florida, Mo.....		2				
22	Near Newberne, N. C.....	3	8				
23	Louisburg, Va.....	14	60		40	50	100
23	Front Royal, Va.....	32	122	750			
23	Backton Station, Va.....	2	6		12		
23	Ft. Craig, New Mexico....		3				
24	New Bridge, Va.....	1	10		50		27
24	Chickahominy, Va.....	2	4				
25	†Winchester, Va. (Fed. retr'd.)	38	155	711			
27	Hanover Court House, Va....	53	344		200		730
27	Big Indian Creek, Ark.....		3		5	25	
27	Osceola, Mo.....	3	2				
28	Wardensville, Va.....				2	3	
29	Pocotaligo, S. C.....	2	9				
30	Booneville, Miss.....						2000
30	Front Royal, Va.....	5	8				156
30	*Corinth, Miss.....						
31	Neosho, Mo.....	2	3				
31	Near Washington, N. C.....		1		3	2	
31	And						
JUNE.							
1	†Seven Pines and Fair Oaks, Va.....	800	3627	1222	2800	3807	1300
2	Strasburg, Va.....		2				
3	Legare's Point, S. C.....		5				
4	Jasper, Tenn.....	2	7		20	20	
4	Blackand, Miss.....	5	14				
5	Tranter's Creek, N. C.....	7	11				
6	Memphis, Tenn. (Memphis sur- renders).....				80	80	100
6	Harrisonburg, Va.....			63	17	50	
8	†Cross Keys, Va.....	125	500		42	230	
9	†Port Republic, Va.....	67	364	574	88	335	34
10	James Island, S. C.....	3	13		17	30	
11	Monterey, Ky.....	2					100
12	Waddell's Farm, Ark.....	12			28		
13	Old Church, Va.....				1		
13	James Island, S. C.....	3	19		19	6	
14	Turnstall Station, Va.....	4	8				
16	Ft. Johnson, James Isl'd, S. C.	85	472	128	51	144	
17	St. Charles, Ark.....	105	30			155	
17	Warrensburg, Mo.....	2	2				

DATE.	JUNE, 1862.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	Killed	K.	W.	Killed
17	Smithville, Ark.....	2	4			4	15
18	Williamsburg Road, Va.....	7	57		5	9	
21	Battle Creek, Tenn.....	4	3				
22	Raceland, La.....	3	8				
23	Raytown, Mo.....	1	1				
25	Oak Grove, Va.....	51	401	64	65	495	71
25	Germantown, Tenn.....	10					
25	Little Red River, Ark.....		2				
26	*Chickahominy, Va.....	80	150		1000		
27	†Gaines Mills, Va.....	7500	k w	& m	7500	k w	& m
26-27	29. U. S. fleet under Com. Far- ragut; no casualties rec'd'd. to July 1. *Malvern Hill, Va.	1000	k w	& m	5000	k w	& m
	President Lincoln calls for 600,000 men. The seven days' retreat of the Army of the Potomac under Gen. Geo. B. McClellan; total casualties in the various engagements were: 1st corps.....	253	1240	1581			
	2d corps.....	187	1076	848			
	3d corps.....	189	1051	833			
	4th corps.....	69	507	201			
	5th corps.....	620	2460	1198			
	6th corps.....	245	1313	1179			
	Engineer's corps.....		2	21			
	Total.....	1582	7709	5958			
	Total casualties in Confed. divisions were 14,011 w....				2820		752
	JULY.						
1	Booneville, Miss.....	45			17	65	
1	Morning Sun, Texas.....		4		11	26	
3	Elvinton Heights, Va.....	8	32		100		
6	Grand Prairie, Ark.....	1	21		84		
7	Bayou Cache, La.....	7	57		110	200	
8	Black River, Mo.....	1	3				
9	Hamilton, N. C.....	1	20				
9	Aberdeen, Ark.....						
9	Thompkinsville, Ky.....	4	6		10		
11	Williamsburg, Va.....				3		
11	Pleasant Hill, Mo.....	10	19		6	5	
12	Lebanon, Ky. (Morgan's raid).	2		65			
12	Near Culpepper, Va.....				1	5	
13	Murfreesboro, Tenn.....	33	62	800	50	100	
14	Batesville, Ark.....	1	4				
15	Apache Pass, Ariz.....		1				
23	Fayetteville, Ark.....						150

DATE.	JULY, 1862.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P-M	K.	W.	P-M
15	Decatur, Tenn.....		4				
17	Cynthiana, Ky. Morgan's raid. Postage stamps made legal tender.....	17	34		8	29	
18	Memphis, Mo.....	13	35		23		
18	Guerrilla campaign in Mo. to Sept. 20. (Morgan's guer- rillas scattered).....	77	156	347	500	1800	560
23	Florida, Mo.....		22		3		
23	Columbus, Mo.....		2				
24	Trinity, Ala.....	2	11		12	30	
24	Near Florida, Mo.....	1	2		1	12	
25	Courtland Bridge, Mo.....			100			
26	Young's Crossroads, N. C.....		7		4	13	
28	Moore's Mills, Mo.....	19	21		30	100	
29	Brownsville, Tenn.....	4	6		4	6	
30	Paris, Ky.....				27	39	
31	Coggin's Point, Va.....	10	15		10	6	
	AUGUST.						
1	Newark, Mo.....	4	4	60	73		
2	Orange Court House, Va.....	4	12		12		50
2	Clear Creek, Mo.....	5	14		11		
3	Languelle Ferry, Ark.....	17	38				
4	President Lincoln ordered 300,- 000 men to be drafted.....						
4	Sparta, Tenn.....					10	23
5	*Baton Rouge, La. (Gen. Will- iams killed).....	82	255	34	84	316	76
5	Malvern Hill, Va.....	3	11				100
6	Kirksville, Mo.....	28	60		128	200	
6	Thornburg, Va.....	2	12	72			
6	Tazewell, Tenn.....	3	23	50	9	40	
7	Trenton, Tenn.....				30	20	
9	Stockton, Mo.....				13	36	
9	*Cedar Mountain, Va. (Conf. repulsed).....	450	660	290	229	1047	31
9	Nucces River, Tex.....	40			8	14	
10	to 13. Grand River skirmishes, Mo. Total.....	100					
11	Independence, Mo.....	14	18	312			
12	Gallatin, Tenn.....	30	50	200	6	18	
13	Clarendon, Ark.....						700
15	Merriweather's Ferry, Tenn..	3	6		30		
16	Lone Jack, Mo.....	60	100		110		
19	Clarksville, Tenn.....			200			
20	Edgefield Junction, Tenn.....	8	18				
22	†Gallatin, Tenn. (Gen. John-						

DATE.	AUGUST, 1862.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P-M	K.	W.	P-M
	son captured).....	64	100	200	110	k	& w
23	Big Hill, Madison Co., Ky....	10	40		25		
23	Waterloo Bridge, Va.....				37	94	
23	Pope's campaign in Va. to Sept. 1. Army of Virginia..	7000			1500		8000
25-6	Ft. Donnelson, Tenn.....	31			30		
27	*Bull Run and Kettle Run, Va.	300			300		1000
28-9	*Groverton and Gainesville, Va. Army of Potomac losses in all corps.....	7000			12000	k w & m	
29	Manchester, Tenn.....				100		
30	†Second Battle of Bull Run, or Manassas, Va.....	800	4000	3000	700	3000	
30	Bolivar, Tenn.....	5	18	64	100		
30	†Richmond, Ky.....	200	700	4000	250	500	
31	Medow Station, Tenn.....	3	13	43			
	SEPTEMBER.						
1	Britton's Lane, Tenn.....	5	51	52	179	100	
1	†Chantilly, Va. McDowell's corps, Hooker and Kearney's Div. of 3d corps, and Reno's corps. (Gens. Kearney and Stearns, Federals, killed....	1300			800		
6	Washington, N. C.....	8	36		30	100	
9	Columbus, Tenn.....				18	45	
10	Cold Water, Miss.....				4	80	
10	Fayetteville, W. Va.....	13	80				
12-	15. Harper's Ferry, Va. 11583 Union prisoners taken.....	80	120		500		
14	*South Mountain, Md. (Gen. Reno killed).....	443	1800		900	2344	1500
14-6	†Mumfordsville, Ky.....	50		3566	715		
15	Harper's Ferry surrenders 11, 500 Federals.....					16399	6000
17	*Antietam, or Sharpsburg, Md. Total loss in all corps.....	2010	9416	1043	3500	6992	501
19-	20. *Iuka, Miss.....	144	598		263	692	
20	Blackford's Ford, Va.....	92	131	103	33	231	
22	Emancipation Proclamation is- sued.....						
30	Newtonia, Mo.....	50	80	115	220	280	
	OCTOBER.						
1	Shepherdstown, Va.....		12		60		
3-4	Corinth, Miss.....	315	1812	232	1423	5692	2248
5	Metamora, Miss.....	500			400		
7	La Vergne, Tenn.....	3	9		80		175
8	*Perryville, Ky.....	916	2943	489	2500		

DATE.	OCTOBER, 1862.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P-M	K.	W.	P-M
10	Harrodsburg, Ky.....						1600
17	Lexington, Ky.....	4	24	350			
18	Morgan, the raider, dashed into Lexington and captured 125 prisoners.....						
22	Maysville, Ark.....						
22	Pocotaligo, S. C.....	43	258		14	102	
	NOVEMBER.						
1	Artillery fight at Philmont, Va.						
3	Reconnoissance at the base of Blue Ridge Mts. Confederates literally driven into the river and drowned by scores.						
3	Harrisonville, Mo.....	10	3		6	20	
4	Galveston, Texas, surrendered						
5	Nashville, Tenn.....		26				23
6	Garrettsburg, Ky.....				17	85	
7	Big Beaver Creek, Mo.....			300			
8	Hudsonville, Miss.....				16		185
21	Gen. Sumner demands surrender of Fredericksburg, Va...						
24	Beaver Creek, Mo.....	6	10		5	30	
28	Crane Hill, Boonesboro, Ark..	4	36		75	300	
28	Hartwood Church, Va.....	4	9	200			
	DECEMBER.						
4	Winchester, Va., captured by Union soldiers.....						
5	Coffeetown, Miss.....	10	54		7	43	
7	Fayetteville, Ark.....	167	798	183	300	1200	
7	Hartsville, Tenn.....	55		1800	21	114	
9	Dobbin's Ferry, Tenn.....	5	48				
12-8	Goldsboro expedition, N. C...	90	478		71	268	400
13	†Fredericksburg, Va., Army of the Potomac.....	1180	9028	2145	579	3870	127
14	Kingston, N. C.....	40	120		50	75	400
18	Lexington, Tenn.....	7	10	124	7	28	
20	Holly Springs, Miss.....			1000			
21	Davis Mills, Miss.....		3		23	50	
28-9	†Chicasaw Bayou, Vicksburg.	191	982	756		207	
30	Red Mound, Tenn.....	23	139	58	50	150	300
31	To						
	JANUARY, 1863.						
1	*Murfreesboro, or Stone River, Tenn., Army of Cumberland.	1533	7245	2800	1456	0	
1	Galveston, Tex.....	600			50		
8	Springfield, Mo.....	14	144		4	200	
11	*Ft. Hindman, Ark.....	129	831		100	400	5000

DATE	FEBRUARY, 1862.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P.	K.	W.	P.
3	Ft. Donnelson, Tenn.	16	60	50	140	400	130
	MARCH.						
5	Spring Hill and Unionville, Tenn.	100	300	1306	150	450	
14	Port Hudson, La.		65				
17	Kelly's Ford, Va.	9	35		11	88	
20	Vaught's Hill, Tenn.	7	48		63	300	
30	Dutton's Hill, or Somerset, Ky.	10	25		200		
	APRIL.						
7	Bombardment of Ft. Sumter, by South Atlantic squadron.	2	20		4	10	
10	Franklin and Harpeth River, Tenn.	100			19	35	25
12-4	Irish Bend, or Indian Ridge, La.	350				400	2000
16	Siege of Suffolk, Va.	44	202		500		400
26	Capé Girardeau, Mo.	6	6		60	275	
27	Streight's raid from Tusculumbia, Ala., to Rome, Ga.	12	69	1466			
29	Fairmount, W. Va.	1	6		100		
30	Spottsylvania Court House, Va.	58					
	MAY						
1	Port Gibson, Miss.	130	718		1150		500
1	La Grange, Ark.	2000	k w & m				
1-4	*Chancellorsville, Va.	1512	9518	5000	1581	8700	2000
2	†Fredericksburg, Va.	2000					
11	Horse Shoe Bend, Ky.	10	20	40	100		
12	Raymond, Miss.	60	341		909		
14	*Jackson, Miss.	40	240		450		
16	*Champion Hills, Miss. (20 cannon captured)	426	1842	189	2500		1800
17	*Big Black River, Miss. (17 cannon captured)	29	242		600		2500
18	to 22. †Siege of Vicksburg, by Gen. Grant and Porter's gunboat fleet. (31,277 Con. killed, wounded and miss'ng	545	3688	303			
27	to July 9. Siege of Port Hudson, La.	500	2500		100	700	6400
	JUNE.						
4	Franklin, Tenn.	25			200		
6-8	*Milliken's Bend, La. Colored regm'ts. No quarters shown.	154	223	115	125	400	200
9	Monticello and Rocky Gap, Ky	4	26		20	80	
9	Beverly Ford and Brandy Station, Va. Cavalry fight	500			700		
13-5	†Winchester, Va.	3000			850		

DATE.	JUNE, 1863.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P-M	K.	W.	P-M
14	Martinsburg, Va.....			200	1	2	
17	Aldie, Va. Kilpatrick's cavalry	24	41	89		100	
20-1	La Forche Crossing, La.....	8	40		53	150	
21	Upperville, Va.....		94		100	100	60
23	Brashear City, La.....	46	40	300	3	18	
23	to 30. *Rosenkranz's campaign from Murfreesboro to Tal- lahoma, Tenn.....	85	462		1634		
28	Donaldsonville, La.....				39	112	150
30	Hanover, Penn.....	12	43			75	60
	JULY.						
1-3	*Gettysburg, Pa., Army of the Potomac. Decisive battle of the war.....	2834	13700	6643	3500	14500	13621
1-	26. Morgan's raid into Ken- tucky, Indiana and Ohio....	22	80	790	86	385	3000
4	*Helena, Ark.....	57	117	32	173	687	776
4	Vicksburg surrenders						
4-5	*Bolton and Birdway Ferry, Miss. (rear guard of John- ston's army).....						2000
5	Smithburg, Md.....	30			30		100
5	Lebanon, Ly	9	15	400	3	6	
8	*Port Hudson surrenders.....						5500
9-	16. †Jackson, Miss.....	100	800	100	71	504	764
10-	Sept. 6. Siege of Fort Wagner, Morris Island, S. C.....	1757			501		
13	Yazoo, City, Miss.....						250
13	Donaldsonville, La.....	450					
13-	15. Draft riots in N. Y. City..	1000					
14	Falling Waters, Md.....	29	36		125		1500
14	*Bristow Station, Va.....	51	329		1200		800
16	Sheppardtown, Va.....				25	75	
17	Honey Springs, Indian Ter....	17	60		150	400	
17	Wytheville W. Va.....	17	61		75		125
21-3	Manassas Gap and Chester Gap, Va.....	35	102		300		
	AUGUST.						
1-3	Rappahannock, Station, Va...	16	134				
3	Jacksonville, La.....	2	2	27			
9	Sparta, Tenn.....	6	25				
20	Lawrence, Kas., burned.....						
21	Massacre at Lawrence, Kas..	140	24		40		
26	Rocky Gap, Va.....	16	113		150		
25	to 31. Brownsville Bayou, Ark	13	72				
	SEPTEMBER.						
8	Night attack on Ft. Sumter...	3		114			

DATE.	SEPTEMBER, 1863.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P-M	K.	W.	P-M
9	Cumberland Gap, Tenn.....						2000
13	Culpepper, Va	3	40		10	40	7
19	and 20. Chickamauga, Ga. Army of Cumberland; 13,412 Confed. wounded.....	1644	9262	4945	2389		2003
22	Blountsville, Tenn.....	5	22		15	50	100
29	Near Morganzia, La.....	14	40	400			
	OCTOBER,						
11	Henderson's Mills, Tenn.....		11		30		
12-3	Ingham's Mills and Wyatt's, Miss	45			50		
13	Culpepper and White Sulphur Springs, Va.....	8	46				
14	Auburn, Va.....	11	42		8	24	
14	Bristol Station, Va.....	51	329		750		150
15-8	Canton, Brownsville, and Clin- ton, Miss.....				200		
17	President Lincoln calls for 300,000 more men.....						
18	Charlestown, W. Va.....	12	13	379			
21	Cherokee Station, Ala.....	7	37		40		
25	Pine Bluff, Ark.....	11	27		53	164	
26	Cane Creek, Ala.....	3	6		10	30	
27	Wauhatchie, Tenn.....	76	339		300	1200	
	NOVEMBER.						
3	Grand Cateau, La.....	26	124	570	60	320	65
3-4	Colliersville & Moscow, Tenn	7	57			100	
6	Rogersville, Tenn.....	5	12	650	10	20	
6	Droop Mountain, Va.....	31	94		50	250	100
7	Rappahannock Station, Va...	370			11	98	1637
11	Natchez, Miss.....	4	6		4	8	
14	Huff's Ferry, Tenn.....	100					
14	Maysville, Tenn.....	100					
16	Campbell's Station, Tenn....	60	340		570		
17	to Dec. 4. Siege of Knoxville, Tenn. Army of the Ohio....	20	80		80	400	300
23-5	*Chattanooga, Tenn., Look- out Mt., and Mis'y Ridge, Army of the Tennessee.....	757	4529	330	361	2181	6141
26-8	Operations at Mine Run, Va., Army of the Potomac.....	100	400		100	400	
27	Cleveland, Tenn.....						200
27	*Ringgold and Taylor's Ridge, Ga.....	68	351		50	200	220
	DECEMBER.						
10-4	Bean's Sta. and Morristown, Tenn.....	700			932		150

DATE.	DECEMBER, 1863.	CASUALTIES.					
		UNION			CONFED.		
		K.	W.	P. M.	K.	W.	P. M.
19	Barran Fork, Ind. Ter.....				50		
28	Charleston, Tenn.....	2	15		8	39	21
30	St. Augustine, Fla.....	4					
	JANUARY, 1864.						
1	London Heights, Va.....	29		41	4	10	
3	Jonesville, Va.....	12	48	300	4	12	
13	Mossy Creek, Tenn.....				14		
16-7	Dandridge, Tenn.....		150				
23	Rolling Prairie, Ark.....	11					
24	Taswell, Tenn.....				31		
27	Kelly's Ford, Tenn.....	100			65		
29	Medley, W. Va.....	10	70			100	
	FEBRUARY.						
1-3	Newberne, N. C.....	16	50	250	5	30	
1	March 8. Yazoo River exp'd'n	35	121		35	90	
3-	March 5. Expedition from						
	Vicksburg to Meridian, Miss.	50	138	105	503		212
5	Qualtown, N. C.....	3	6				50
6	Morton's Ford, Va.....	10	201				100
9	Morgan's Mills, Ark.....	1	4		65		
10-	25. Smith's raid from Ger-						
	mantown, Tenn., into Miss..	43	267			50	300
14-5	Waterproof, La. Col'd troops.	8	14		15		
20	Olustee or Silver Lake, Fla...	193	1175	400	100	400	
22	Mulberry Gap, Tenn.....	13		256			
25-7	Buzzard Roost, Ga.....	17	272		20	120	
28-	March 4. Kilpatrick's raid from						
	Stephensburg to Richmond, Va.	330			308		
	MARCH.						
1	Burton's Ford, Va.....	10					30
9	Suffolk, Va.....	8	1			25	
17	Manchester, Tenn.....				21		
17	Gen. Grant assumes command						
	of all the armies of the U. S.						
21	Henderson Hills, La.....		1		8		250
25	Ft. Anderson, Ky.....	14	46		10	40	
26	to 30. Longview and Mt. Elba,						
	Ark.....	4	18		12	35	300
31	Near Snydersville, Miss.....	16	3		3	7	
	APRIL.						
2	Spooneville, Ark.....	10	33		100		
3	Okalona, Ark.....	16	74		85		
5	Roseville, Ark.....	19	11		15	25	11
7	Wilson's Farm, La.....	14	39		15	40	100
8-9	Sabin Cross Roads and Pleas-						
	ant Hills, La.....	300	1600	2100	600	204	300
10-3	Prairie di Ann, Ark.....	100			50		

DATE.	APRIL, 1864.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P-M	K.	W.	P-M
12	Pleasant Hill Landing, La....		7		200		
15	and 16. Liberty P.O. and occupation of Camden, Ark....	255					
17	to 20. †Plymouth, N. C.....	20	80	1500	500		
18	Poison Springs, Ark.....	113	88	68			
23	and 24. Moneti's Bluff, La....	350			400		
24	Mark's Mills, Ark.....	100	250	100	110	228	40
30	Jenkin's Ferry, Ark.....	200	955		300	300	
	MAY.						
1-8	Hudnot's plantat'n, near Alexandria, La.....	33	87		25	100	
5-7	Battle of the Wilderness, Va. Army of the Potomac.....	5597	21463	10677	2000	6000	3400
6	Gen. Sherman begins his Atlanta campaign.....						
5-9	Rocky Face Ridge, Ga. Army of the Cumberland.....	200	637		600		
6-7	Chester Station, Va.....	48	250		50	200	
8	Todd's Tavern, Va.....	40	150		30	150	
8-	18. Spottsylvania, Fredericksburg Road, Army of the Potomac. (2 Confederate generals and 30 guns captured).....	4177	10687	2577	1000	5000	3000
9-	10. Swift Creek, Va.....	90	400				500
9-	10. Cloyn's Mountain, Va....	126	585		699		300
9-	13. Sheridan's cavalry raids in Virginia.....	50	174	200			100
12-6	Drury's Bluff, Va.....	422	2383	210	400	2000	100
13-6	* Resaca, Ga.....	600	2147		360	1500	1000
15	Newmarket, Va.....	120	500	240	85	320	
16	to 30. Bermuda Hundred, Va.	200	1000		3000		
18	Calhoun Station, La.....	60	300		500		
23-7	North Ann River, Va.....	223	1400	290	2000		
25	to June 4. *Dallas, Ga. Army of the Cumberland.....	2400			3000		
26-9	Decatur, Ala.....	48			60		
27-8	Hanoverton, Va.....	25	119	200	475		
30	Ashland, Va.....	26	130				
	JUNE.						
1-12	†Cold Harbor, Va.: 10,570 Fed. wounded.....	1995		2450	1200		500
5	Piedmont, W. Va.....	130	650		400	1450	1060
6	Lake Chicot, Ark.....	40	70		100		
9	Mount Sterling, Ky.....	35	150		50	200	250
9-30	Kenesaw Mountain, Army of the Cumberland.....	1370	6500	800	1100		3500
10	Brice's Cross Roads, Miss....	223	394	1623	131	475	

DATE.	JUNE, 1864.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P-M	K.	W.	P-M
11	Cynthiana, Ky.....	150			300		400
11	and 12. Trevillian Sta., Va.	85	490	160	100		370
15	Malvern Hill.....	25	3				
15-9	†Petersburg, Va., Army of the James.....	1398	7474	1814	200		
17	and 18. Lynchburg, Va.....	100	500	100			
19	Alabama sunk off Charbourg, France, by the Kearsage...						
20	to 30. In front of Petersburg, Va.....	112	506	800			
22-3	Jerusalem Plank road, Va. Army of the Potomac.....	604	2494	2117		300	200
22	to 30. †Wilson's raid on the Weldon railroad, Va.....	92	317	734	365		
23-4	Jones' Bridge, Va.....	54	235	300	250		
25-9	Clarendon, St. Charles river, Ark.....		200			200	200
28	Confederates move on Washington by way of the Shenandoah Valley, Va.....						
	JULY.						
1	to 31. In front of Petersburg, Va., Deep Bottom, Newmarket and Malvern Hill...	898	4060	3110	400	600	200
2-5	Smyrna, Ga.....	60	310		100		
3-9	Expedition from Vicksburg to Jackson, Miss.....		150			100	
5-18	Smith's expedition from La Grange, Tenn., to Tapola, Miss.....	85	567		110	600	
6-10	Chattahoochee river, Ga. Army of the Ohio.....	80	450	200			
9	Monocacy, Md.....	90	579	1200		400	
12	Ft. Stephens, Washington, D.C.	54	319		500		
18	Ashby's Gap, Va.....	200					
19	20. Winchester, Va.....	37	175			300	200
20	*Peachtree Creek, Ga.....	300	1310		1113	2500	0083
22	*Atlanta, Ga. (McPherson k'd)	500	2141	1000	2482	4000	2017
24-4	Kernstown and Winchester..	1200			600		
26-	31. Stoneman's raid to Macon	100		990			
26-	31. McCook's raid to Lovejoy Station, Ga.....	100	500				
28	Atlanta, Ga. Second sortie at Ezra Chapel.....	100	600		642	4000	1900
	AUGUST.						
1-31	In front of Petersburg, Va....	87	484				
5-23	*Ft. Gaines, Mobile Harbor,						

DATE.	OCTOBER, 1864.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P-M	K.	W.	T
	Ala. (100 drowned by sinking of the Tecumseh. 150 guns captured).....	75		170			2144
7	Morefield, Va.....	9	22		100		400
9	Explosion at City Point, Va...	70	130				
14-8	Strawberry Plains, Va.....	400	1755	1400		1000	
16	Front Royal, Va.....	13	58		30	150	300
18	19, 21. *Six Mile House, Weldon R. R. (Railroad cap'd).	212	1155	3176		2000	2000
21	Summitt Pt., Berryville, and Flowing Springs, Va.....	600			400		
25	Smithville and Kearneysville, Va.....	20	60	100	300		
25	Ream's Station, Va.....	127	546	1709	1500		
29	Smithfield, Va.....	10	90		200		
31	And						
	SEPTEMBER.						
1	Jonesboro, Ga.....	1149			200		
1-8	Rosseau's pursuit of Wheeler in Tennessee.....	10	30		300		
10	Oct. 30. In front of Petersburg, Va. Army of the Pot'c	170	820	812		1000	
2	*Fall of Atlanta, Ga.....						200
3-4	Berryville, Va.....	30	182	100	25	100	79
4	Greenville, Tenn.....		6		10	60	73
16	Sycamore Church, Va.....	400			50		
19-	22. *Winchester and Fisher's Hills, Va. 2d Div. 19th corps under Sheridan. (Con.Gens. Rhodes and Gordon killed).	693	4033	623	3259		3600
23	Athens, Ala.....			950	5	25	
26-7	*Pilot Knob, or Ironton, Mo..	28	56	100	1500		
27	Massacre by Price, Mo.....	122	2				
28-	30. Newmarket Heights, or Laurel Hill, Va.....	400	2029		2000		
30	And						
1	Poplar Springs Church, Va...	141	788	1750		800	100
2	Waynesboro, Va.....	50					
2	Saltville, Va.....	54	190	104	18	71	81
5	Allatoona, Ga.....	142	352	212	231	500	411
7-13	Darbytown Road, Va.....	105	502	206	1100		350
13	Strasburg, Va.....	30	144	40			
13	Dalton, Ga. Troops under Col. Johnson.....			400			
15	Glasgow, Mo.....		400		50		
19	*Cedar Creek, Va, (Sheridan's ride).....	588	3516	1891	3000		1200

DATE.	OCTOBER, 1864.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P-M	K.	W.	T
27	†Natcher's Run, Va.....	156	1047	699	206	600	800
27-8	Fair Oaks, Va.....	120	783	400	60	311	80
29	Beverly, W. Va.....	8	25	13	17	27	32
	NOVEMBER.						
9	Atlanta, Ga.....				20		
12	Newton and Cedar Spring, Va		84	100			130
13	Ball's Gap, Tenn.....	5	36	200			
18	Myerstown, Va.....	60			10		
22	Griswoldville, Ga.....	10	52		50	200	400
26	Saundersonville, Ga.....			100			100
26-9	Sylvan Grove, Ga.....	46			600		
29-	30. *Spring Hill and Franklin, Tenn.....	189	1033	1004	1750	3800	702
30	Honey Hill, or Grahamsville, S. C.....	66	645				
	DECEMBER.						
1	Stony Creek Station, Va.....		40				173
2-14	*In front of Nashville, Tenn.	16	100				
2-31	In front of Petersburg. Army of the Potomac.....	40	329				
4	Block House No. 7, Tenn.....		100		100		
5-8	Murfreesboro, Tenn.....	30	175				197
6-9	Deveaux's Neck, S. C.....	39	300	200	400		
8-9	Hatcher's Run, Va.....	125					
10-	21. Siege of Savannah, Ga....		200				800
12-	21. Stoneman's raid, Bean's Sta., Tenn., to Saltv'le, Va.	20	123		8	126	500
13	*Ft. McAllister, Ga.....	24	110				250
15-7	Nashville, Tenn.....	400	1740				4462
17	Franklin, Tenn. Wilson's cav. Wounded and sick captured						1800
25	†Ft. Fisher, N. C.....	8	38		3	55	280
28	Egypt Station, Miss.....	23	88				500
	JANUARY, 1865.						
2	Franklin, Miss.....	4	9		20	30	
13-5	*Ft. Fisher, N. C.....	184	749		400		2083
16	Explosion of magazine at Ft. Fisher, N. C. (Fort and 72 guns captured).....	25	66				
25	To Feb. 9. Combahee River, S. C.....	138					
	FEBRUARY.						
5-7	†Dabney's Mills, Hatcher's Run, Va.....	232	1062	186	1200		
6-14	Williston, Blackville, and Aiken, S. C. Kilpatrick's cav.				200		100
20	James Island, S. C.....	20	76		20	70	

DATE.	FEBRUARY, 1865.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P-M	K.	W.	P-M
18-	22. Ft. Anderson, N. C.....	40	204		70	400	375
27-	March 25. Sheridan's raid in Virginia.....	35					1667
	MARCH.						
8-10	Wilcox Bridge, N. C.....	80	421	600	1500		
16	Averysboro, N. C.....	77	477		108	540	217
19-	21. *Bentonville, N. C., Kilpatrick's cavalry.....	191	1086	287	267	0	1625
22-	April 24. Wilson's raid from Chickasaw, Ala., to Macon.	63	345	63	22	38	6766
25	Ft. Stedman, in front of Petersburg, Va.....	68	337	506	800		1881
25	Assault of 2d and 6th corps...	103	864	209			834
26-	April 9. Siege of Mobile, Ala., including Spanish fort and Port Blakely.....	213	1211		500		2952
29	Quaker Road, Va.....	55	300		135	400	100
31	Boydton and White Oak Roads	177	1034	556	1000		235
31	Dinwiddie Court House, Va.	67	354		400		
	APRIL.						
1	*Five Forks, Va. All of Lee's artillery captured).....	124	706		3000		5500
2	Fall of Petersburg, Va.....	269	2565	5000			3000
3	Fall of Richmond. 6,000 Con. prisoners taken, of whom 5,000 were sick and wounded						
5	Amelia Springs, Va.....	20	96				
6	Sailor's Creek, Va.....	166	1014		1000		6000
7	Farmville, Va.....	655					
8-9	Appomattox Court House. Va.	200			500		

APRIL—CONTINUED.

9—Lee surrendered to the Armies of the Potomac and James (Maj.-Gen. Grant), with 26,000 prisoners.

14—Mobile surrendered to a combined army and naval attack.

14—The flag that Gen. Anderson had lowered at Ft. Sumter was returned to its position.

14—President Lincoln was assassinated at Washington. He was shot in the back of the head at Ford's theatre by Wilkes Booth, and died next morning.

15—Andrew Johnson, Vice-President, took the oath of office as President.

17—Surrender of Mosby to Maj.-Gen. Hancock, with 700 prisoners.

25—Wilkes Booth shot in a barn in Virginia and died in twenty-four hours.

APRIL—CONTINUED.

26—Johnson surrendered to the Armies of the Tennessee, Georgia, and Ohio (Maj.-Gen. Sherman), with 29,924 prisoners.

MAY, 1865.

5—Galveston, Tex., surrenders to the Federals.

10—Capture of Jefferson Davis at Irwinsville, Ga.

10—Surrender of Sam. Jones' command at Tallehassee, Fla., with 8,000 prisoners.

11—Chalk Bluff, Ark. Surrender of Jeff Thompson's command with 7,454 prisoners.

13—Palmetto Ranch, Tex., 118 Federals killed.

26—Surrender of Kirby Smith to Maj.-Gen. Canby's command with 20,000 prisoners.

26—The Armies of the East and West were disbanded and returned home, after a review at Washington.

JUNE, 1865.

6—An order was issued for the release of all prisoners of war in the depots of the North.

JULY, 1865.

7—Mrs. Surratt, Harold, Payne, and Azertoth hanged at Washington for conspiracy in the murder of Lincoln.

DECEMBER, 1865.

18—Secretary Seward officially declared slavery abolished.

EXPLANATION OF MARKS AND ABBREVIATIONS.

* Federals victorious.

† Confederates victorious.

k—Killed.

w—Wounded.

m—Missing.

P-M—Prisoners and missing.

PRESENT FORCE OF STATE MILITIA.

According to a report on the organized militia of the United States, which has just been prepared by the War Department, the United States, in case of need, can put 11,448,300 men in the field, not including Naval Militia.

The total force of the militia number 107,845 of which 96,899 compose the infantry arm, 4,576 the cavalry, 5,459 the artillery, and 911 generals and staff officers. The total appropriation allowed the militia by the government amounted to \$400,000, while the States during the same period spent \$3,282,407 on these organizations.

The permanent quota of troops as authorized by the several States as standing organizations:

Alabama, 7,788; Arizona, 898; Arkansas, 1,932; California, 6,471; Colorado, 1,142; Connecticut, 4,108; Delaware, 750; District of Columbia, 3,320; Florida, 1,458; Georgia, 12,344; Guam, 42; Hawaii, 2,000; Idaho, 1,200; Illinois, 10,626; Indiana, 4,601; Iowa, 13,694; Kansas, 2,131; Kentucky, 3,500; Louisiana, 1,513; Maine, 2,051; Maryland, 2,700; Massachusetts, 6,592; Michigan, 3,429;

Minnesota, 3,729; Mississippi, 1,800; Missouri, 3,000; Montana, 1,124; Nebraska, 2,113; Nevada, 155; New Hampshire, 1,699; New Jersey, 5,127; New Mexico, 1,128; New York, 18,000; North Carolina, 5,000; North Dakota, 923; Ohio, 9,436; Oklahoma, 2,164; Oregon, 1,585; Pennsylvania, 11,103; Porto Rico, 1,000; Rhode Island, 1,030; Samoa, 68; So. Carolina, 5,000; So. Dakota, 1,000; Tennessee, 3,000; Texas, 3,244; Utah, 1,000; Vermont, 711; Virginia, 5,176; Washington, 1,877; West Virginia, 8,359; Wisconsin, 3,122; Wyoming, 1,078.

These make up a total of 199,694 officers and men, but on a peace footing does not reach over 107,845.

If necessary, Ill. could place 852,625 men in the field; Pa., 771,874; Ohio, 650,000; N. Y., 560,000; Ind., 481,192; Ky., 361,138; Mo., 390,000; Mass., 339,391; Wis., 306,343; Tex., 300,000; Va., 295,444; N. J., 284,887; Ga., 264,071; Mich., 260,000; Ia., 245,899; N. C., 240,000; Miss., 228,700; Md., 205,816; Ark. 205,000; other States below 200,000 each; total, 11,448,300 officers and men.

THE PHONOGRAPH.

THE PHONOGRAPH is a machine for recording and then transmitting sounds, speech, music, etc. It is the invention of Thos. A. Edison, the most noted electrician of this age. The phonograph was accidentally discovered. Mr. Edison was at work on an apparatus for recording a telegraphic message, by having an armature (with a needle fastened in one end) of the sounder make indentations on a piece of tin foil wrapped around a cylinder. The message would thus be punctured or indented on this tin foil, then, by substituting another needle—blunt—for the sharp one and turning the cylinder, the armature would be vibrated as the needle entered into and passed out of the indentations. While experimenting, he turned the cylinder very rapidly, and instead of a succession of "clicks," a musical sound was produced. He seized the idea, and the Edison Phonograph was the result. The perfected phonograph of to-day consists of a cylinder of wax, or other plastic material, which is revolved either by hand, foot power or an electric motor. This cylinder, called the *phonogram*, is used for recording the sound. This is done by a diaphragm—such as is used in a telephone—into the center of which is fastened a sharp needle, which rests upon and just touches the phonogram. When the words are spoken the diaphragm vibrates, moving this needle up and down, and a series of indentations are made in a spiral line on the phonogram, which is turning around about eighty-five times a minute. To make the phonograph *speak*, or repeat the words, another diaphragm, similar to the first or recorder, but having a blunt instead of a sharp needle, is placed at the starting point and the phonogram made to revolve, of course, as the needle passes over the indentations it vibrates the diaphragm and the words are reproduced—as in a telephone.

THE TELEPHONE.

In 1831, Wheatstone showed that when the sounding boards of two musical instruments were connected together by a rod of pine wood, a tune played on one will be faithfully reproduced by the other. Somewhat later a toy, called the Lovers' String, was made, and is the simplest form of a mechanical telephone. The toy consisted of two tin cups, the bottoms made of parchment or cat gut tightly stretched like a drum head, and connected, one with the other, by a string or cord. When the string was drawn taut, sounds, such as those of ordinary speech, produced in front of one of the cups were transmitted along the string to the other cup and reproduced there. This was the first telephone. At various times between 1831 and 1876, electricians and scientists had experimented with electro-magnets as a means of transmitting sounds a long distance. Charles Bourseul in 1854 published an article on the electrical transmission of speech, and recommended the use of a flexible plate at the source of sound, which would vibrate in response to the atmospheric pulsations and thus open and shut an electrical circuit, and would thus operate, by an electro-magnet, upon a similar plate at a distance connected by wire with the first, causing it to give out as many pulsations as there were breaks in the circuit. In 1876, Alexander Graham Bell first exhibited the speaking telephone at the Philadelphia Centennial Exposition. It is this telephone, greatly improved, however, which is now in common use. This telephone consists of a compound permanent magnet fitted into the center of a hard rubber tube and carrying, at one end, a short electro-magnet. In front of this electro-magnet is fixed a thin, soft iron disk, about one and three-fourths inches in diameter. This disk lies at the end of the rubber tube, where the tube is formed into a mouth piece. The action of telephoning with this telephone is very simple. The sound, as ordinary speech, is made in the mouth piece. The atmosphere conveys the sound—vibrations against the thin, iron disk (commonly called the diaphragm.) The disk vibrates in sympathy, and coming against the electro-magnet, breaks and opens the electric circuit with every vibration. By means of the connecting wire, the electro-magnet in the distant telephone causes the diaphragm to vibrate corresponding to the breaks in the current. This of course vibrates the atmosphere and the pulsations are conveyed to the ear. The telephone thus described is now used as a receiver. The transmitter invented and improved by Edison and Blake, is combined with the Bell telephone and makes the telephone of general use. Telephonic communication have been held between Chicago and New York, but not with overwhelming success.

Highest and Greatest Mountains in the World.

NAME.	COUNTRY	Feet High.	Miles
Mt. Everest (Himalayas).....	Thibet.....	29,002	5 $\frac{3}{4}$
Sorato, the highest in America.....	Bolivia.....	21,284	4
Illimani.....	Bolivia.....	21,145	4
Chimborazo.....	Ecuador.....	21,422	4 $\frac{3}{4}$
Hindoo-Koosh.....	Afghanistan.....	20,600	3 $\frac{3}{4}$
Demavend, highest of Elburz Mts.....	Persia.....	20,000	3 $\frac{3}{4}$
Cotopaxi, highest volcano in the world.....	Ecuador.....	19,496	3 $\frac{3}{4}$
Antisana.....	Ecuador.....	19,150	3 $\frac{3}{4}$
St. Elias, highest in North America.....	Alaska.....	17,850	3 $\frac{3}{4}$
Popocatepetl, volcano.....	Mexico.....	17,540	3 $\frac{3}{4}$
Mt. Roa, highest in Oceanica.....	Hawaii.....	16,000	3
Mt. Brown, highest peak of R'ky Mts.....	Brit. America.....	15,900	3
Mont Blanc, highest in Europe, Alps.....	Savoy.....	15,732	3
Mt. Rosa, next highest peak of Alps.....	Savoy.....	15,150	2 $\frac{3}{4}$
Limit of perpetual snow at the.....	Equator.....	15,207	2 $\frac{3}{4}$
Pichinca.....	Ecuador.....	15,924	3
Mt. Whitney.....	California.....	14,887	2 $\frac{3}{4}$
Mt. Fairweather.....	Alaska.....	14,500	2 $\frac{3}{4}$
Mt. Shasta.....	California.....	14,442	2 $\frac{3}{4}$
Mt. Ranier.....	Wash. Territ'y.....	14,444	2 $\frac{3}{4}$
Long's Peak, Rocky Mountains.....	Colorado.....	14,271	2 $\frac{3}{4}$
Mt. A. arat.....	Armenia.....	14,320	2 $\frac{1}{2}$
Pike's Peak.....	Colorado.....	14,216	2 $\frac{1}{2}$
Mt. Ophir.....	Sumatra.....	13,800	2 $\frac{3}{4}$
Fremont's Peak, Rocky Mountains.....	Wyoming.....	13,570	2 $\frac{5}{8}$
Mt. St. Helens.....	Wash. Territ'y.....	13,400	2 $\frac{1}{2}$
Peak of Teneriffe.....	Canaries.....	12,182	2 $\frac{1}{8}$
Miltzin, highest of Atlas Mountains.....	Morocco.....	11,500	2
Mt. Hood.....	Oregon.....	11,225	2
Mt. Lebanon.....	Syria.....	10,533	2
Mt. Perda, highest of Pyrenees.....	France.....	10,950	2
Mt. Ætna, volcano.....	Sicily.....	10,835	2
Monte Corno, highest of Appenines.....	Naples.....	9,523	1 $\frac{3}{4}$
Sneehattan, highest Dovrefield Mts.....	Norway.....	8,115	1 $\frac{1}{2}$
Pindus, highest in.....	Greece.....	7,677	1 $\frac{1}{2}$
Mount Sinai.....	Arabia.....	6,541	1 $\frac{1}{4}$
Black Mountain, highest in.....	N. Carolina.....	6,760	1 $\frac{1}{4}$
Mt. Washington, highest White Mts.....	N. Hampshire.....	6,285	1 $\frac{3}{4}$
Mt. Marcy, highest in.....	New York.....	5,402	1
Mt. Hecla, volcano.....	Iceland.....	5,104	1
Ben Nevis, highest in Great Britain.....	Scotland.....	4,406	$\frac{7}{8}$
Mansfield, highest of Green Mountains.....	Vermont.....	4,280	$\frac{3}{4}$
Peaks of Otter.....	Virginia.....	4,260	$\frac{3}{4}$
Mt. Vesuvius.....	Naples.....	4,253	$\frac{3}{4}$
Round Top, highest of Catskill Mts.....	New York.....	3,804	$\frac{3}{4}$

ONE HORSE POWER is the strength necessary to lift 33,000 pounds one foot per minute.

HOW FAST THE USE OF THE TELEPHONE IS GROWING.

The 1890 census gives the following startling figures concerning this new branch of electrical contrivances. We only insert round figures.

Capital invested in the Telephone business: 1880, 14 millions; 1890, 72 millions. Gross earnings: 1880, 3 millions; 1890, 16½ millions. Net earnings: 1880, ¾ millions; 1890, 5¼ millions. Number of exchanges: 1880, 437; 1890, 1,241. The number of instruments was from 108,638 to 467,356; the miles of wire from 34,305 to 240,412; the number of employes from 3,338 to 8,645, and the number of subscribers from 48,414 to 227,357. The census-takers, in 1890, report 453,200,000 conversations to have taken place over the telephone wires.

In 1900 the number of instruments used had grow to 1,580,101, the number of exchanges to 1,239, with 1,187 branch offices, and the conversations held over the wires had reached the stupendous figure of 5,173,803 daily, or 1,666,000,000 for the year.

Temperature in United States.—Average of Three Years.

Prescott, Arizona.....	51.9	Salt Lake City, Utah.....	50.3
Jacksonville, Florida.....	70.4	Morgantown, W. Virginia.....	53.1
New Orleans, Louisiana.....	70.2	Indianapolis, Indiana.....	53.3
Galveston, Texas.....	70.5	Leavenworth, Kansas.....	53.3
Mobile, Alabama.....	67.4	Santa Fe, N. Mexico Ter.....	46.8
Jackson, Mississippi.....	66	Spokane Falls, W. Ter.....	46.2
Little Rock, Arkansas.....	62.3	New London, Connecticut.....	49.9
Charleston, S. Carolina.....	66.9	Chicago, Illinois.....	48.8
Ft. Gibson, Indian Ter.....	59.4	Winnemucca, Nevada.....	48
Charlotte, N. Carolina.....	60.6	Des Moines, Iowa.....	48.5
Atlanta, Georgia.....	61.7	Omaha, Nebraska.....	49.5
Memphis, Tennessee.....	61.7	Denver, Colorado.....	49.2
Norfolk, Virginia.....	60.1	Boston, Massachusetts.....	48.4
Louisville, Kentucky.....	57.4	Albany, New York.....	50.4
San Francisco, California.....	55	Providence, Rhode Island.....	48
Washington, D. C.....	55	Detroit, Michigan.....	49.7
St. Louis, Missouri.....	55	Ft. Randall, Dakota.....	47
Baltimore, Maryland.....	56	Sitka, Alaska.....	43.9
Harrisburg, Pennsylvania.....	54	Concord, New Hampshire.....	46
Wilmington, Delaware.....	53	Augusta, Maine.....	45
Trenton, New Jersey.....	53	Madison, Wisconsin.....	45
Cincinnati, Ohio.....	56	Helena, Montana Ter.....	42.6
Portland, Oregon.....	51.4	Burlington, Vermont.....	45
Boise City, Idaho.....	49.4	St. Paul, Minnesota.....	43.9

If a railway were built to the sun, and trains upon it were run at the rate of thirty miles an hour, day and night without a stop, it would require 350 years to make the journey from the earth to the sun.

Average Rainfall in the United States.

PLACE.	Inches.	PLACE.	Inches.
Ft. Garland, Colorado.....	6	Ft. Smith, Arkansas.....	40
Ft. Bridger, Utah Ter.....	6	Providence, Rhode Island..	41
Ft. Bliss, Texas.....	9	New Bedford, Mass.....	41
Ft. Colville, Wash. Ter.....	9	Baltimore, Maryland.....	41
San Diego, California.....	9	Muscatine, Iowa.....	42
Ft. Craig, New Mexico Ter..	11	St. Louis, Missouri.....	43
Ft. Defiance, Arizona.....	14	Marietta, Ohio.....	43
Ft. Randall, Dakota Ter.....	16	Richmond, Indiana.....	43
Ft. Marcy, New Mexico Ter..	16	Gaston, N. Carolina.....	43
Ft. Massachusetts, Colorado	17	New York City, N. Y.....	43
Sacramento, California.....	21	Charleston, S. Carolina....	43
Dallas, Oregon.....	21	Philadelphia, Pennsylvania.	44
San Francisco, California....	21	New Haven, Connecticut...	44
Mackinac, Michigan.....	23	Cincinnati, Ohio.....	44
Salt Lake City, Utah Ter....	23	Brunswick, Maine.....	44
Ft. Snelling, Minnesota.....	25	Boston, Massachusetts....	44
Ft. Kearney.....	25	Newark, New Jersey.....	44
Penn Yan, New York.....	28	Memphis, Tennessee.....	45
Milwaukee, Wisconsin.....	30	Fortress Monroe, Virginia..	47
Detroit, Michigan.....	30	Springdale, Kentucky.....	48
Ft. Leavenworth, Kansas....	31	Savannah, Georgia.....	48
Ft. Brown, Texas.....	33	New Orleans, Louisiana....	51
Buffalo, New York.....	33	Natchez, Mississippi.....	52
Burlington, Vermont.....	34	Huntsville, Alabama.....	54
Peoria, Illinois.....	35	Washington, Arkansas.....	54
Key West, Florida.....	36	Ft. Myers, Florida.....	56
Ft. Gibson, Indian Ter.....	36	Ft. Tonson, Indian Ter.....	57
White Sulphur Springs, Va..	37	Meadow Valley, California..	57
Washington, D. C.....	37	Baton Rouge, Louisiana....	60
Pittsburgh, Pennsylvania....	37	Mt. Vernon, Alabama.....	66
Cleveland, Ohio.....	37	Ft. Haskins, Oregon.....	66
Ft. Vancouver.....	38	Sitka, Alaska.....	83
Hanover, New Hampshire....	40	Neah Bay, Wash. Ter.....	123

Yards of Wire per Bundle.

Wires all weigh 63 lbs. to the bundle

Wire Gauge.	Yards in Bundle.	Wire Gauge.	Yards in Bundle.
No. 0.....	71	No. 11.....	529
" 1.....	91	" 12.....	700
" 2.....	105	" 13.....	893
" 3.....	121	" 14.....	1142
" 4.....	143	" 15.....	1468
" 5.....	170	" 16.....	1954
" 6.....	203	" 17.....	2540
" 7.....	239	" 18.....	3150
" 8.....	286	" 19.....	4085
" 9.....	342	" 20.....	4912
" 10.....	420		

Amount of Barbed Wire Required for Fences.

Estimated number of pounds of barbed wire required to fence space or distances mentioned, with one, two or three lines of wire, based upon each pound of wire measuring one rod ($16\frac{1}{2}$ feet).

	1 Line.	2 Lines.	3 Lines.
1 square acre.....	50 $\frac{2}{3}$ lbs.	101 $\frac{1}{3}$ lbs.	152 lbs.
1 side of a square acre	12 $\frac{2}{3}$ lbs.	25 $\frac{1}{3}$ lbs.	38 lbs.
1 square half-acre.....	36 lbs.	72 lbs.	108 lbs.
1 square mile.....	1280 lbs.	2560 lbs.	3840 lbs.
1 side of a square mile....	320 lbs.	640 lbs.	960 lbs.
1 rod in length.....	1 lb.	2 lbs.	3 lbs.
100 rods in length.....	100 lbs.	200 lbs.	300 lbs.
100 feet in length ..	6 1-16 lbs.	12 $\frac{1}{8}$ lbs.	18 3-16 lbs.

Number of Shrubs or Plants for an Acre of Ground.

<i>Dist. apart.</i>	<i>No. of Plants.</i>	<i>Dist. apart.</i>	<i>No. of Plants.</i>
3 inches by 3 inches.....	696,960	6 feet by 6 feet.....	1,216
4 inches by 4 inches.....	392,040	6 $\frac{1}{2}$ feet by 6 $\frac{1}{2}$ feet.....	1,031
6 inches by 6 inches.....	174,240	7 feet by 7 feet.....	881
9 inches by 9 inches.....	77,440	8 feet by 8 feet.....	680
1 foot by 1 foot	43,560	9 feet by 9 feet.....	537
1 $\frac{1}{2}$ feet by 1 $\frac{1}{2}$ feet	19,360	10 feet by 10 feet.....	435
2 feet by 1 foot.....	21,780	11 feet by 11 feet.....	360
2 feet by 2 feet.....	10,890	12 feet by 12 feet.....	302
2 $\frac{1}{2}$ feet by 2 $\frac{1}{2}$ feet.....	6,960	13 feet by 13 feet.....	257
3 feet by 1 foot.....	14,520	14 feet by 14 feet.....	222
3 feet by 2 feet.....	7,260	15 feet by 15 feet.....	193
3 feet by 3 feet.....	4,840	16 feet by 16 feet.....	170
3 $\frac{1}{2}$ feet by 3 $\frac{1}{2}$ feet.....	3,555	16 $\frac{1}{2}$ feet by 16 $\frac{1}{2}$ feet.....	160
4 feet by 1 foot.....	10,890	17 feet by 17 feet.....	150
4 feet by 2 feet.....	5,445	18 feet by 18 feet.....	134
4 feet by 3 feet.....	3,630	19 feet by 16 feet.....	120
4 feet by 4 feet.....	2,722	20 feet by 20 feet.....	108
4 $\frac{1}{2}$ feet by 4 $\frac{1}{2}$ feet.....	2,151	25 feet by 25 feet	69
5 feet by 1 foot.....	8,712	30 feet by 30 feet	48
5 feet by 2 feet.....	4,356	33 feet by 33 feet.....	40
5 feet by 3 feet.....	2,904	40 feet by 40 feet.....	27
5 feet by 4 feet.....	2,178	50 feet by 50 feet.....	17
5 feet by 5 feet.....	1,742	60 feet by 60 feet.....	13
5 $\frac{1}{2}$ feet by 5 $\frac{1}{2}$ feet.....	1,417	66 feet by 66 feet.....	10

COST OF EMANCIPATION.—If the total cost of the Civil War be divided among the slaves set free, emancipation cost about \$700 per slave.

How Deep in the Ground to Plant Corn.

The following is the result of an experiment with Indian Corn. That which was planted at the depth of

$\frac{3}{4}$ inch, sprout appeared in.....	8 days
1 inch, sprout appeared in.	8½ days
1½ inch, sprout appeared in.....	9½ days
2 inches, sprout appeared in.	10 days
2½ inches, sprout appeared in.....	11½ days
3 inches, sprout appeared in.....	12 days
3½ inches, sprout appeared in.....	13 days
4 inches, sprout appeared in.....	13½ days

The more shallow the seed was covered with earth, the more rapidly the sprout made its appearance, and the stronger afterward was the stalk. The deeper the seed lay, the longer it remained before it came to the surface. Four inches was too deep for the maize, and also too deep for smaller kernels.

How to Measure Corn in Crib, Hay in a Mow, etc.

This rule will apply to a crib of any kind. Two cubic feet of sound, dry corn in the ear will make a bushel shelled. To get the quantity of shelled corn in a crib of corn in the ear, measure the length, breadth and height of the crib, inside of the rail; multiply the length by the breadth and the product by the height: then divide the product by two, and you have the number of bushels in the crib.

To find the number of bushels of apples, potatoes, etc., in a bin, multiply the length, breadth and thickness together, and this product by 8, and point off one figure in the product for decimals.

To find the amount of hay in a mow, allow 512 cubic feet for a ton, and it will come out very near correct.

How Grain Will Shrink.

Farmers rarely gain by keeping their grain after it is fit for market, when the shrinkage is taken into account. Wheat, from the time it is threshed, will shrink two quarts to the bushel or six per cent in six months, in the most favorable circumstances. Hence, it follows that ninety-four cents a bushel for wheat when first threshed in August, is as good, taking into account the shrinkage alone, as one dollar in the following February.

Corn shrinks much more from the time it is first husked. One hundred bushels of ears, as they come from the field in November, will be reduced to not far from eighty. So that forty cents a bushel for corn in the ear, as it comes from the field, is as good as fifty in March, shrinkage only being taken into the account.

In the case of potatoes—taking those that rot and are otherwise lost—together with the shrinkage, there is but little doubt that between October and June, the loss to the owner who holds them is not less than thirty-three per cent.

This estimate is taken on the basis of interest at 7 per cent and takes no account of loss by vermin.

What a Deed to a Farm in many States Includes.

Everyone knows it conveys all the fences standing on the farm, but all might not think it also included the fencing-stuff, posts, rails, etc., which had once been used in the fence, but had been taken down and piled up for future use again in the same place. But new fencing material, just bought, and never attached to the soil, would not pass. So piles of hop poles stored away, if once used on the land and intended to be again so used, have been considered a part of it, but loose boards or scaffold poles merely laid across the beams of the barn, and never fastened to it, would not be, and the seller of the farm might take them away. Standing trees, of course, also pass as part of the land; so do trees blown down or cut down, and still left in the woods where they fell, but not if cut, and corded up for sale; the wood has then become personal property.

If there be any manure in the barnyard, or in the compost heap on the field, ready for immediate use, the buyer ordinarily, in the absence of any contrary agreement, takes that also as belonging to the farm, though it might not be so, if the owner had previously sold it to some other party, and had collected it together in a heap by itself, for such an act might be a technical severance from the soil, and so convert real into personal estate; and even a lessee of a farm could not take away the manure made on the place while he was in occupation. Growing crops also pass by the deed of a farm, unless they are expressly reserved; and when it is not intended to convey those, it should be so stated in the deed itself; a mere oral agreement to that effect would not be, in most States, valid in law. Another mode is to stipulate that possession is not to be given until some future day, in which case the crops or manures may be removed before that time.

As to the buildings on the farm, though generally mentioned in the deed, it is not absolutely necessary they should be. A deed of land ordinarily carries all the buildings on it, belonging to the grantor, whether mentioned or not; and this rule includes the lumber and timber of any old building which has been taken down or blown down, and packed away for future use on farm.

United States Land Measure and Homestead Law.

A township is 36 sections, each a mile square. A section is 640 acres. A quarter section, half a mile square, is 160 acres. An eighth section, half a mile long, north and south, and a quarter of a mile wide, is 80 acres. A sixteenth section, a quarter of a mile square, is 40 acres.

The sections are all numbered 1 to 36, commencing at northeast corner, thus :

6	5	4	3	2	NW NE
					SW SE
7	8	9	10	11	12
13	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

The sections are all divided in quarters, which are named by the cardinal points, as in section 1. The quarters are divided in the same way. The description of a forty-acre lot would read: The south half of the west half of the south-west quarter of section 1 in township 24, north of range 7 west, or as the case might be, and sometimes will fall short, and sometimes overrun the number of acres it is supposed to contain.

HOMESTEAD PRIVILEGE.—The laws give to every citizen, and to those who have declared their intention to become citizens, the right to a homestead on SURVEYED lands, to the extent of one-quarter section, or 160 acres, or a half-quarter section, or 80 acres; the former in cases in the class of lower priced lands held by law at \$1.25 per acre, the latter of high priced lands held at \$2.50 per acre, when disposed of to cash buyers. The pre-emption privilege is restricted to heads of families, widows, or single persons over the age of twenty-one.

Every soldier and officer in the army, and every seaman, marine and officer of the navy, during the recent rebellion, may enter 160 acres from either class, and length of time served in the army or navy deducted from the time required to perfect title.

BOOKS PUBLISHED.—There are published daily, throughout the civilized world, about 200 new books; total in 1898, 70,554.

Number of Pounds to the Bushel, legal weight, in Different States.

States.	Buckwht.	Corn on the Cob.	Shelled Corn.	Corn Meal	Onions.	Sweet Potatoes.	Potatoes.	Turnips.	Peas.	Beans.	Barley.	Wheat.	Oats.	Rye.	Dried Apples.	Flax Seed	Clover Seed	Blue Grass Seed.	Anthracite Coal.	Timothy Seed.
Arkansas.....	52	70	...	50	57	50	60	...	46	60	48	60	32	56	24	56	60	14	80	45
California..	40	...	52	...	...	...	...	...	...	...	50	60	32	54	...	...	...	...	...	...
Connecticut....	48	...	56	50	50	...	60	50	60	60	48	60	32	56	...	...	...	...	...	...
Georgia.....	52	70	56	48	57	55	60	55	60	60	47	60	32	56	24	56	60	14	80	45
Illinois.....	52	70	56	48	57	55	60	55	...	60	48	60	32	56	24	56	60	14	80	45
Indiana.....	50	68	56	50	48	...	60	...	...	60	48	60	...	56	25	...	60	14	...	45
Iowa.....	52	70	56	...	57	46	60	...	...	60	48	60	32	56	24	56	60	14	80	45
Kansas.....	50	70	56	50	57	50	60	55	...	60	48	60	32	56	24	56	60	14	80	45
Kentucky.....	55	70	55	50	57	55	60	60	60	60	47	60	32	56	24	54	60	14	80	45
Maine.....	48	...	56	50	52	...	60	50	60	64	48	60	30	50	...	56	...	14	76	45
Massachusetts..	48	...	55	50	52	56	60	...	...	...	48	60	32	56	...	...	...	...	...	...
Michigan.....	48	70	56	50	54	56	60	58	60	60	48	60	32	56	22	56	60	14	...	45
Minnesota.....	42	...	56	...	...	...	60	...	...	...	48	60	32	56	28	...	60	...	...	...
Missouri.....	52	...	56	...	57	...	60	...	...	...	48	60	32	56	24	56	60	14	...	45
New Hampshire	...	...	56	50	...	...	60	...	60	60	...	60	32	56	...	...	...	...	...	...
New Jersey....	50	...	56	...	57	54	60	...	60	60	48	60	30	56	25	55	64	...	...	...
New York.....	48	...	56	...	...	...	60	...	60	62	48	60	32	56	...	55	60	...	...	...
North Carolina.	50	...	54	46	...	...	...	...	50	...	48	60	30	56	...	...	64	...	...	44
Ohio.....	50	70	56	...	50	50	60	...	...	60	48	60	32	56	22	56	60	...	...	45
Pennsylvania...	48	...	56	...	50	...	56	...	...	...	47	60	32	56	...	...	62	...	...	...
Rhode Island...	...	...	56	...	50	...	60	...	...	...	48	60	32	56	...	...	...	...	...	...
South Carolina	56	70	56	50	57	50	60	...	60	60	48	60	33	56	26	44	60	14	...	...
Tennessee.....	50	72	56	50	56	50	60	...	60	60	48	60	32	56	26	56	...	14	...	45
Vermont.....	46	...	52	...	52	...	60	60	60	60	48	60	32	56	...	...	60	...	...	45
Virginia.....	52	70	56	50	57	56	60	55	60	60	48	60	32	56	28	56	60	14	80	45
Wisconsin.....	50	70	56	...	58	...	60	42	...	60	48	60	32	56	28	46	60	...	...	45

CANALS — THEIR LENGTH AND COST.

The following table comprises the canals of the United States and Canada of which the cost has exceeded \$1,000,000 each :

NAME.	State.	Length in miles.	Cost.
Erie	New York.	363	\$7,143,789
Champlain	"	63	1,257,604
Chenango	"	97	2,419,956
Central Division, public	Penna.	173	5,307,251
Western " "	"	104	3,096,521
Susquehanna Division, public ..	"	39	1,039,256
N. Branch " " ..	"	73	1,096,178
N. Branch Extension " ..	"	90	3,528,302
Delaware Division " ..	"	60	1,275,715
Schuylkill " private ..	"	108	2,500,176
Lehigh " " ..	"	85	4,455,099
Union " " ..	"	82	.....
Del. and Hudson	N. Y. & Pa.	108	2,500,000
" " enlarged	"	108	6,500,000
Del. and Raritan feeder	New Jersey.	43	2,844,103
Morris and Essex	"	101	3,100,000
Chesapeake and Delaware	Del. & Md.	13½	2,750,000
Chesapeake and Ohio	Maryland ..	191	10,000,000
Ohio and Erie	Ohio	307	4,695,824
Miami	"	178	3,750,000
Sandy and Beaver	"	76	1,500,000
James River and Kanawha	Virginia ...	147	5,020,050
Wabash and Erie	Indiana	379	.....
" "	"	90	3,057,120
Illinois and Michigan	Illinois	102	8,654,337
Welland	Canada	36	7,000,000
St. Lawrence	"	10	1,000,000
Cornwall	"	12	2,000,000
Beauharnois	"	11	1,500,000
Lachine	"	8½	2,000,000

FARM ANIMALS IN THE UNITED STATES, (1900.)

The Department of Agriculture reported the following farm animals in the United States on January 1, 1900: Horses, 13,537,534, value, \$603,969,442; mules, 2,086,127, value, \$111,717,092; milk cows, 16,292,360, value, \$514,812,106; oxen and other cattle, 27,610,054, value, \$689,486,260; sheep, 41,883,065, value, \$122,665,916. Total value farm animals, \$2,212,756,578.

THE BIGGEST THINGS.

Interesting Facts Useful When You Get Into an Argument.

The largest theater in the world is the new Opera-house in Paris. It covers nearly three acres of ground; its cubic mass is 4,287,000 feet; it cost about 100,000,000 francs. The largest suspension bridge is the one between New York City and Brooklyn; the length of the main span is 1,595 feet 6 inches; the entire length of the bridge is 5,980 feet. The loftiest active volcano is Popocatepetl — "smoking mountain" — thirty-five miles southwest of Puebla, Mexico; it is 17,748 feet above the sea level, and has a crater three miles in circumference, and 1,000 feet deep. The longest span of wire in the world is used for a telegraph in India over the River Kistnah. It is more than 6,000 feet in length, and is 1,200 feet high. The largest ship in the world is the Great Eastern. She is 680 feet long, 83 feet broad, and 60 feet deep, being 28,627 tons burden, 18,915 gross, and 13,334 net register.

The greatest fortress, from a strategical point of view, is the famous stronghold of Gibraltar. It occupies a rocky peninsula jutting out into the sea, about three miles long and three-quarters of a mile wide. One central rock rises to a height of 1,435 feet above the sea level. Its northern face is almost perpendicular, while its east side is full of tremendous precipices. On the south it terminates in what is called Europa Point. The west side is less steep than the east, and between its base and the sea is the narrow, almost level span on which the town of Gibraltar is built. The fortress is considered impregnable to military assault. The regular garrison in time of peace numbers about 7,000.

The biggest cavern is the Mammoth Cave, in Edmonson County, Kentucky. It is near Green River, about six miles from Cave City, and twenty-eight from Bowling Green. The cave consists of a succession of irregular chambers, some of which are large, situated on different levels. Some of these are traversed by the navigable branches of the subterranean Echo River. Blind fish are found in its waters.

The longest tunnel in the world is that of the St. Gothard, on the line of railroad between Lucerne and Milan. The summit of the tunnel is 900 feet below the surface at Andermatt, and 6,600 feet beneath the peak of Kastlehorn, of the St. Gothard group. The tunnel is $26\frac{1}{2}$ feet wide, and is 18 feet 10 inches from the floor to the crown of the arched roof. It is $9\frac{1}{2}$ miles long.

The biggest trees in the world are the mammoth trees of California. One of a grove in Tulare County, according to measurements made by members of the State Geological Survey, was shown to be 276 feet in height, 108 feet in circumference at base, and 76 feet at a point 12 feet above ground. Some of the trees are 376 feet high, and 34 feet in diameter. Some of the largest that have been felled indicate an age of from 2,000 to 2,500 years.

The largest library is the Bibliotheque National, in Paris, founded by Louis XIV. It contains 1,400,000 volumes, 300,000 pamphlets, 175,000 manuscripts, 300,000 maps and charts, and 150,000 coins and medals. The collection of engravings exceeds 1,300,000, contained in some 10,000 volumes. The portraits number about 100,000.

The largest desert is that of Sahara, a vast region of Northern Africa, extending from the Atlantic Ocean on the west to the valley of the Nile on the east. The length from east to west is about 3,000 miles, its average breadth about 900 miles, its area about 2,000,000 square miles. Rain falls in torrents in the Sahara at intervals of five, ten and twenty years. In summer the heat during the day is excessive, but the nights are often cold.

A Calendar for Ascertaining Any Day of the Week for Any Given Time from 1800 to 1927.

YEARS 1880 TO 1927.						Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.
1800e	1828q	1856q	1884q	1900g	a	4	7	7	3	5	1	3	6	2	4	7	2
1801a	1829a	1857a	1885a	1901d													
1802b	1830b	1858b	1886b	1902e	b	5	1	1	4	6	2	4	7	3	5	1	3
1803c	1831c	1859c	1887c	1903a													
1804h	1832h	1860h	1888h	1904k	c	6	2	2	5	7	3	5	1	4	6	2	4
1805d	1833d	1861d	1889d	1905f													
1806e	1834e	1862e	1890e	1906g	d	2	5	5	1	3	6	1	4	7	2	5	7
1807a	1835a	1863a	1891a	1907d													
1808k	1836k	1864k	1892k	1908i	e	3	6	6	2	4	7	2	5	1	3	6	1
1809f	1837f	1865f	1893f	1909b													
1810g	1838g	1866g	1894g	1910c	f	7	3	3	6	1	4	6	2	5	7	3	5
1811d	1839d	1867d	1895d	1911f													
1812l	1840l	1868l	1896l	1912m	g	1	4	4	7	2	5	7	3	6	1	4	6
1812b	1841b	1869b	1897b	1913e													
1814c	1842c	1870c	1898c	1914a	h	7	3	4	7	2	5	7	3	6	1	4	6
1815f	1843f	1871f	1899f	1915b													
1816m	1844m	1872m		1916n	k	5	1	2	5	7	3	5	1	4	6	2	4
1817e	1845e	1873e		1917g													
1818a	1846a	1874a		1918d	l	3	6	7	3	5	1	3	6	2	4	7	2
1819b	1847b	1875b		1919e													
1820n	1848n	1876n		1920p	m	1	4	5	1	3	6	1	4	7	2	5	7
1821g	1849g	1877g		1921c													
1822d	1850d	1878d		1922f	n	6	2	3	6	1	4	6	2	5	7	3	5
1823e	1851e	1879e		1923g													
1824p	1852p	1880p		1924q	o	4	7	1	4	6	2	4	7	3	5	1	3
1825c	1853c	1881c		1925a													
1826f	1854f	1882f		1926b	p	2	5	6	2	4	7	2	5	1	3	6	1
1827g	1855g	1883g		1927c													

● NOTE.—The letters in list or "YEARS from 1800 to 1927," refer to the table headed with the MONTHS, the figures in which refer to the same figures at the head of the table of DAYS. Example: To know on what day July 4, 1901, will fall, look for 1901 in table of YEARS. The letter 'd' is attached. Look for that letter in table of MONTHS; in a parallel line under July is the figure 1, referring to figure 1 in table of DAYS below, in which July 4 falls on Thursday.

1	2	3	4	5	6	7
Monday... 1	Tuesday... 1	Wednesday... 1	Thursday... 1	Friday... 1	Saturday... 1	Sunday... 1
Tuesday... 2	Wednesday... 2	Thursday... 2	Friday... 2	Saturday... 2	Sunday... 2	Monday... 2
Wednesday... 3	Thursday... 3	Friday... 3	Saturday... 3	Sunday... 3	Monday... 3	Tuesday... 3
Thursday... 4	Friday... 4	Saturday... 4	Sunday... 4	Monday... 4	Tuesday... 4	Wednesday... 4
Friday... 5	Saturday... 5	Sunday... 5	Monday... 5	Tuesday... 5	Wednesday... 5	Thursday... 5
Saturday... 6	Sunday... 6	Monday... 6	Tuesday... 6	Wednesday... 6	Thursday... 6	Friday... 6
Sunday... 7	Monday... 7	Tuesday... 7	Wednesday... 7	Thursday... 7	Friday... 7	Saturday... 7
Monday... 8	Tuesday... 8	Wednesday... 8	Thursday... 8	Friday... 8	Saturday... 8	Sunday... 8
Tuesday... 9	Wednesday... 9	Thursday... 9	Friday... 9	Saturday... 9	Sunday... 9	Monday... 9
Wednesday... 10	Thursday... 10	Friday... 10	Saturday... 10	Sunday... 10	Monday... 10	Tuesday... 10
Thursday... 11	Friday... 11	Saturday... 11	Sunday... 11	Monday... 11	Tuesday... 11	Wednesday... 11
Friday... 12	Saturday... 12	Sunday... 12	Monday... 12	Tuesday... 12	Wednesday... 12	Thursday... 12
Saturday... 13	Sunday... 13	Monday... 13	Tuesday... 13	Wednesday... 13	Thursday... 13	Friday... 13
Sunday... 14	Monday... 14	Tuesday... 14	Wednesday... 14	Thursday... 14	Friday... 14	Saturday... 14
Monday... 15	Tuesday... 15	Wednesday... 15	Thursday... 15	Friday... 15	Saturday... 15	Sunday... 15
Tuesday... 16	Wednesday... 16	Thursday... 16	Friday... 16	Saturday... 16	Sunday... 16	Monday... 16
Wednesday... 17	Thursday... 17	Friday... 17	Saturday... 17	Sunday... 17	Monday... 17	Tuesday... 17
Thursday... 18	Friday... 18	Saturday... 18	Sunday... 18	Monday... 18	Tuesday... 18	Wednesday... 18
Friday... 19	Saturday... 19	Sunday... 19	Monday... 19	Tuesday... 19	Wednesday... 19	Thursday... 19
Saturday... 20	Sunday... 20	Monday... 20	Tuesday... 20	Wednesday... 20	Thursday... 20	Friday... 20
Sunday... 21	Monday... 21	Tuesday... 21	Wednesday... 21	Thursday... 21	Friday... 21	Saturday... 21
Monday... 22	Tuesday... 22	Wednesday... 22	Thursday... 22	Friday... 22	Saturday... 22	Sunday... 22
Tuesday... 23	Wednesday... 23	Thursday... 23	Friday... 23	Saturday... 23	Sunday... 23	Monday... 23
Wednesday... 24	Thursday... 24	Friday... 24	Saturday... 24	Sunday... 24	Monday... 24	Tuesday... 24
Thursday... 25	Friday... 25	Saturday... 25	Sunday... 25	Monday... 25	Tuesday... 25	Wednesday... 25
Friday... 26	Saturday... 26	Sunday... 26	Monday... 26	Tuesday... 26	Wednesday... 26	Thursday... 26
Saturday... 27	Sunday... 27	Monday... 27	Tuesday... 27	Wednesday... 27	Thursday... 27	Friday... 27
Sunday... 28	Monday... 28	Tuesday... 28	Wednesday... 28	Thursday... 28	Friday... 28	Saturday... 28
Monday... 29	Tuesday... 29	Wednesday... 29	Thursday... 29	Friday... 29	Saturday... 29	Sunday... 29
Tuesday... 30	Wednesday... 30	Thursday... 30	Friday... 30	Saturday... 30	Sunday... 30	Monday... 30
Wednesday... 31	Thursday... 31	Friday... 31	Saturday... 31	Sunday... 31	Monday... 31	Tuesday... 31

THE LIBERTY BELL.

The Philadelphia *News* gives some interesting particulars of the history of the Independence Bell:

The order for the bell was given in 1751. The State House of Pennsylvania, in Philadelphia, work on which had been suspended for a number of years, was then approaching completion. The lower floors were already occupied by the Supreme Court in the chamber, while in the other assembled the Freemen of the Province of Pennsylvania, then consisting of one body. A committee was appointed by the Freemen, with Peter Norris as chairman, and empowered to have a new bell cast for the building. The commission for the bell was in the same year awarded to Robert Charles, of London, the specification being that the bell should weigh about 2,000 pounds and cost £100 sterling. It was to be made by the best workmen, to be examined carefully before being shipped, and to contain, in well-shaped letters around it, the inscription: "By order of the Province of Pennsylvania, for the State House in the City of Philadelphia, 1752." An order was given to place underneath this the fatal and prophetic words from Leviticus xxv. 10: "Proclaim liberty throughout the land and to all the inhabitants thereof."

The reason for the selection of this text has been a subject of much conjecture, but the true reason is apparent when the full text is read. It is as follows: "And ye shall hallow the fiftieth year and proclaim liberty throughout the land and to all the inhabitants thereof." In selecting the text the good Quakers had in memory the arrival of William Penn and their forefathers more than half a century before.

In August, 1752, the bell arrived, but though in apparent good order, it was cracked by a stroke of the clapper while being tested. It could not be sent back,

as the captain of the vessel who had brought it over could not take it on board. Two skillful men undertook to recast the bell, which, on being opened, revealed a bell which pleased very much. But it was also found to be defective. The original bell was considered too high, and a quantity of copper was added to the composition, but too much copper was added. There were a great many witticisms on account of the second failure, and the ingenious workmen undertook to recast the bell, which they successfully did, and it was placed in condition in June, 1753.

On Monday, the 8th of July (not the 4th), at noon, true to its motto, it rang out the memorable message of "Liberty throughout the land and to all the inhabitants thereof."

For fifty years the bell continued to be rung on every festival and anniversary until it eventually cracked.

An ineffectual attempt was made to cause it to continue serviceable by enlarging the cause of its dissonance and chipping the edges. It was removed from its position in the tower to a lower story, and only used on occasions of public sorrow, such as the death of ex-Presidents and statesmen. Subsequently it was placed on the original timbers in the vestibule of the State House, and in 1873 it was suspended in a prominent position immediately beneath where a larger bell presented to the city in 1866 now proclaims the passing hours.

CHOLERA.

CHOLERA.—Known in its native country, India, under the names Morshi, Mordeshi and Visuchika; first appeared in Europe in 1831; was first introduced into Canada and the United States in 1832, spread as an epidemic, and lasted in some localities until 1835.

Second European epidemic began in 1847; reached New York and New Orleans in December, 1848; Canada in April, 1849; continuing epidemically in the United States until 1852; almost died out in Europe at the close of 1850, but broke out afresh in 1852, and was again imported into this country in 1853, not entirely disappearing until 1855.

Third epidemic in Europe began in 1865; cases at Ward's Island, New York, in November, but the contagion not fairly introduced into the United States until the spring of 1866; died out here in 1867, and in most European countries in 1869-70; a fresh outbreak there in 1871 reached this country again in February, 1873, when it spread from New Orleans and involved nineteen States in eight months.

Fourth epidemic followed a violent outbreak in Egypt in 1883 (the "Damietta outbreak"); cases at Marseilles in October, but existence concealed; declared epidemic at Toulon in June, 1884; spread throughout Southern France, thence into Italy; existence suspected in Spain, but denied during the winter of 1884-85, but during the spring and summer of 1885 it invaded nearly all parts of the kingdom, causing over one hundred thousand deaths; attacked Italy again during the autumn, and at the close of 1885 was reported in Venice, Trieste and in the province of Brittany. Cases were reported in various other parts of Europe, but no spread resulted, except in the countries named. So far as known, only one infected vessel arrived in this country; deaths occurred during the voyage, but the vessel was properly cared for on her arrival in New York Bay, latter part of September, 1885.

The first European epidemic lasted *seven* years—from 1831 to 1837, inclusive—dying out during cold weather, and reappearing in spring in previously infected localities, and thence spreading to localities which had previously escaped; in many instances more severely scourging localities in the second or subsequent years than during the first visitation. The second epidemic lasted *seventeen* years—1847 to 1863—with a remarkable intermission in 1851-52, and numerous fluctuations of intensity, the severest in 1849-50 and in 1853-55. The third lasted *ten* years—1865 to 1874—with a remission in 1869-70, and a fresh outbreak in 1871. In all of them the disease was brought to the United States within two years after it had become epidemic in countries in close commercial relation with this country, and in each epidemic there were several direct importations of the contagion.

DEDUCTION.—*That whenever, and as long as Asiatic*

cholera exists on the European continent, this country is in danger of a cholera epidemic.

Three things are necessary for a cholera epidemic:

First, the cholera poison; second, filthy local conditions of air, soil and water; third, individual predisposition. If, by quarantine, the poison can be kept out of the country, the other two factors might be disregarded. But since the most rigidly enforced quarantines have heretofore failed to prevent the introduction of the poison, it is essential that such measures of local and individual sanitation be enforced as will secure cleanliness of person, of habitation and of surroundings—of air, water and soil. Certain of these conditions the individual can only indirectly control, but for his own immediate environment, his dwelling and premises and his personal hygiene, he is himself responsible. And these conditions have much to do with determining the individual predisposition.

Cholera is most surely guarded against by keeping the body clean and well nourished, and the mind equable and contented; underfeeding, anxiety, overwork, exposure to extremes of temperature, intemperance in eating or drinking—all tend to reduce the resistance of the system to the influence of any morbid poison, and more especially that of cholera.

If cholera should, unfortunately, make its appearance, the following most important precaution should be observed:

No diarrhea, or even lax condition of the bowels, should be disregarded while there is a single case of cholera in the country. An attack of cholera is usually preceded by a loose, painless diarrhea, although less frequently one may pass from apparently perfect health after a single dejection into the state of cholera collapse. But, as a rule, there is the premonitory stage above indicated, and which may last from one to five days. Such attacks, if promptly and properly treated, may almost invariably be cured, but if neglected, may develop into malignant cholera.

TREATMENT.—First, absolute rest; second, a teaspoonful of the following mixture every two hours until the diarrhea is checked:

CHOLERA MIXTURE.

Aromatic sulphuric acid. One ounce.
 Paregoric. Three ounces.

DOSE.—One teaspoonful in four tablespoonfuls of water.

This is the simplest and most generally useful combination, and should be kept ready for use in the house, office, store and workshop during a cholera season.

A good doctor should be called, but the above treatment is to be followed until the doctor arrives. Meantime take no food or stimulants of any kind, but allay thirst with ice.

PREVENTIVE.—In addition to ordinary prudence in diet and drink, especial care should be taken as to the quality of drinking-water used. If not known to be absolutely pure, add a teaspoonful of aromatic sulphuric acid (elixir of vitriol) to one quart of water. Epidemics of cholera have been arrested, when every other means failed, by using water thus acidulated. It may be flavored with lemons and sweetened.

There is good reason for believing that the cholera poison is absolutely destroyed by mineral acids. It would be well, therefore, to confine the drink exclusively to this mineral-acid lemonade so long as there is any danger of cholera. No other single precaution is of so much importance as this.

POISONS—ANTIDOTES AND TREATMENT.

Immediately on discovering that poison has been swallowed, send for a physician with all possible haste. Until his arrival, the treatment should either be with a view to removing the poison by an emetic or neutralizing its effects by an antidote.

EMETICS.—Ground mustard, a tablespoonful in a tumbler of warm water, is an emetic usually quickly procured. Give the patient one-fourth of it at once, and follow with a cup of warm water. Repeat the dose every minute or two until vomiting takes place. Give tepid water freely. Mustard has a special value in most cases where an emetic is needed, as it is also stimulating in its effects.

Common salt is also used as an emetic, a teacup of water with as much salt as the water will dissolve being given every few moments until vomiting occurs.

Tickling the throat with a feather, or with the finger, is a valuable aid to the action of an emetic.

After vomiting takes place, the white of eggs in warm water, warm milk, gum-arabic water, or flour and water, may be given to further cleanse the stomach and to soothe the irritated mucous membrane.

The following table gives the common poisons and suggestions as to the treatment for each, and, together with the above, may be of assistance until the arrival of a physician:

ACIDS—MINERAL.—Chalk, magnesia (plaster off wall), solution of cooking soda, or saleratus; then barley-water, linseed-tea, or olive-oil.

ACONITE.—Emetics, stimulants external and internal.

ANTIMONY.—Strong tea in large quantities.

AQUA FORTIS.—Same as *Acids, Mineral*.

ARSENIC.—Give milk in large quantities, or the white of eggs, or flour and water. Follow with stimulants.

ATROPIA.—Same as *Belladonna*.

ARGENTI NIT.—Large teaspoonful of salt in cup of water; repeat in ten minutes; then give castor-oil and linseed-tea or barley-water.

BAD FISH OR OTHER FOOD.—Emetics; then a large dose of castor-oil with some warm spice. Mustard-plaster to pit of stomach if necessary.

BED-BUG POISON.—Same as *Corrosive Sublimate*.

BLUE VITRIOL.—Same as *Cupri Sulph.* and *Copper*.

CANNABIS INDICA.—Hot brandy and water, lemon-juice, vegetable acids, vinegar; allow patient to sleep; blister to nape of neck.

CANTHARIDES.—Emetics, followed by barley-water, flaxseed-tea, or other soothing drinks.

CARBOLIC ACID.—Castor or olive-oil.

CAUSTIC POTASH.—Same as *Potash*.

CAUSTIC SODA.—Same as *Potash*.

CHLORINE WATER.—Albumen (white of egg), milk, flour.

CHLOROFORM.—Fresh air; incline the body so as to get the head as low as possible, pull the tongue forward; dash cold water on the chest at intervals; excite respiration by other means.

CHLORIDE OF TIN.—Milk in large quantities with magnesia, chalk or whiting in it; raw eggs beaten up with water or milk.

CHLORAL HYDRATE.—Same as *Chloroform*.

CHLORIDE OF ZINC.—Milk with white of eggs in it. Large doses.

COBALT.—Same as *Arsenic*.

COLCHICUM.—Emetics; then barley water, linseed tea, etc. If stupor (*coma*) be present, give brandy, coffee, ammonia.

CONIUM.—Emetics, followed by stimulants, externally and internally.

COPPER.—Milk and whites of eggs; large quantities; then strong tea. Don't give vinegar.

COPPERAS.—Emetics: Mucilaginous drinks.

CORROSIVE SUBLIMATE.—White of eggs in a little water. Repeat dose at intervals of two or three minutes until patient vomits. Use milk or flour and water if you can't get eggs.

CROTON OIL.—Emetics; then flaxseed tea, gum-arabic water, slippery elm, etc.

CUPRI SULPH.—Whites of eggs. Same as *Copper*.

CYANIDE OF POTASSIUM.—Same as *Prussic Acid*.

DIGITALIS.—Emetics. Keep the patient lying down. Stimulants externally and internally.

FOWLER'S SOLUTION.—Same as *Arsenic*.

HASCHISCH.—Same as *Cannabis Indica*.

HEMLOCK.—Same as *Conium*.

HENBANE.—Same as *Hyoscyamus*.

HYDROCYANIC ACID.—Fresh air and artificial respiration, with dashes of cold water.

HYOSCYAMUS.—Emetics; lemon juice stimulants, external and internal.

INDELIBLE INK.—Same as *Argenti Nit.*

INDIAN HEMP.—Same as *Cannabis Indica*.

IODINE.—Emetics; starch or flour in water; barley water or other demulcent drinks.

IVY POISONING.—Apply soft-soap freely to affected parts; or bathe the poisoned skin frequently with weak tincture of belladonna.

LAUDANUM.—Same as *Opium*.

LEAD.—Two ounces of Epsom salts in a pint of water; wineglassful every ten minutes until it operates freely. Afterward milk.

LEAD SALTS.—Same as *Lead*.

LEAD WATER.—Same as *Lead*.

LOBELIA.—Stimulants externally and internally.

LUNAR CAUSTIC.—Same as *Argenti Nit.*

LYE.—*Potash*.

MERCURY.—Same as *Corrosive Sublimate*.

MINERAL ACID.—Same as *Acids, Mineral*.

MORPHIA.—Same as *Opium*.

MURIATIC ACID.—Same as *Acids, Mineral*.

NITRATE OF SILVER.—Same as *Argenti Nit.*

NITER.—Same as *Saltpeter*.

NITRIC ACID.—Same as *Acids, Mineral*.

NUX VOMICA.—Emetics, artificial respiration, linseed tea or barley-water; to an adult 30 drops of laudanum to relieve the spasms.

OIL OF BITTER ALMONDS.—Same as *Prussic Acid*.

OIL OF VITRIOL.—Same as *Acids, Mineral*.

OPIUM.—Emetics (10 grains of sulphate of copper if possible); after vomiting, which must be induced quickly, give plenty of strong coffee with brandy, put mustard plasters around calves of legs; keep patient aroused by walking around, dashing cold water in face, heating soles of feet, or whipping body with towels wrung out in cold water. If the patient is allowed to go to sleep before the effect of the opium has passed off, death will result.

OXALIC ACID.—Same as *Acids, Mineral*.

PAREGORIC.—Same as *Opium*.

PARIS GREEN.—Same as *Arsenic*.

PHOSPHORUS.—Emetics, large quantities of tepid water, with magnesia, chalk, whiting, or even flour stirred in it.

POTASH.—Vinegar and water, oranges, lemons, sour

beer, cider, or sour fruit; then give oil—linseed or olive.

PRUSSIC ACID.—Sal-volatile and water; apply smelling salts to nostrils; dash cold water in face; stimulants.

RATSBANE.—Same as *Arsenic*.

RED PRECIPITATE.—Same as *Corrosive Sublimate*.

RED LEAD.—Same as *Lead*.

"ROUGH ON RATS."—Same as *Arsenic*.

SALTPETRE.—Flour and water in large doses; linseed or sweet oil.

SALTS OF TIN.—Milk in large quantities.

SILVER, NITRATE OF.—Same as *Argenti Nit.*

SPANISH FLY.—Same as *Cantharides*.

SPIRITS OF SALTS.—Same as *Acids, Mineral*.

STRAMONIUM.—Same as *Belladonna*.

STRYCHNINE.—Same as *Nux Vomica*.

SUGAR OF LEAD.—Same as *Lead Salts*.

SULPHURIC ACID.—Same as *Acids, Mineral*.

SULPHATE OF ZINC.—Same as *Zinc Salts*.

TARTAR EMITIC.—Same as *Antimony*.

TARTARIZED ANTIMONY.—Same as *Antimony*.

TOBACCO.—Emetics; stimulants external and internal.

VERDIGRIS.—Same as *Copper*.

VERMILLION.—Same as *Corrosive Sublimate*.

VOLATILE ALKALI.—Same as *Potash*.

WHITE PRECIPITATE.—Same as *Arsenic*.

WHITE VITROL.—Same as *Zinc Salts*.

ZINC SALTS.—Give milk with white of eggs freely; afterward warm barley water or linseed oil.

Live Stock on Ranges in the United States.

It is found that in June, 1890, there were upon the ranges 517,128 horses, 5,433 mules, 14,109 asses or burros, 6,828,182 cattle, 6,676,902 sheep, and 17,276 swine, with sales of horses, in 1889, amounting to \$1,418,205; of cattle, \$17,913,712; of sheep, \$2,669,663, and of swine, \$27,132. The total number of men reported upon ranges in care of this stock is 15,390. The industry is found to be more generally prosperous at this time than for several years previous.

CONTAGIOUS AND ERUPTIVE DISEASES.

It will often relieve a mother's anxiety to know how long after a child has been exposed to a contagious disease that there is danger the disease has been contracted. The following table gives the *period of incubation* — or anxious period — and other information concerning the more important diseases.

Disease.	Symptoms usually appear.	Anxious period ranges from	Patient is infectious.
Chicken-Pox.....	On 14th day	10-18 days.	Until all scabs have fallen off.
Diphtheria.....	" 2d day	2-5 days.	14 days after disappearance of membrane
Measles.....	" 14th day	10-14 days.	*Until scaling and cough have ceased
Mumps.....	" 19th day	16-24 days.	14 days from commencement.
Rotheln.....	" 14th day	12-20 days.	10-14 days from commencement.
Scarlet Fever.....	" 4th day	1-7 days.	Until all scaling has ceased.
Small-Pox.....	" 12th day	1-14 days.	Until all scabs have fallen off.
Typhoid Fever....	" 21st day	1-28 days.	Until diarrhea ceases.
Whooping-Cough..	" 14th day	7-14 days.	+Six weeks from beginning to whoop.

* In measles the patient is infectious three days before the eruption appears.

+ In whooping-cough the patient is infectious during the primary cough, which may be three weeks before the whooping begins.

The following points may help to determine the nature of a suspicious illness:

Rash or Eruption.	Appearance.	Disease.	Duration in days.	Remarks.
Small rose pimples changing to vesicles.....	2d day of fever or after 24 hours' illness.....	CHICKEN-POX.....	6-7	Scabs form about 4th day of fever.
Diffuse redness and swelling.....	2d or 3d day of illness.....	ERYSIPELAS.....		
Small red dots like flea-bites.....	4th day of fever or after 72 hours' illness.....	MEASLES.....	6-10	Rash fades on 7th day.
Bright scarlet, diffused.....	2d day of fever or after 24 hours' illness.....	SCARLET FEVER..	8-19	Rash fades on 5th day.
Small red pimples changing to vesicles, then pustules	3d day of fever or after 48 hours' illness.....	SMALL-POX.....	14-21	Scabs form 9th or 10th day, fall off about 14th.
Rose colored spots, scattered.....	7th to 14th day....	TYPHOID FEVER ..	22-30	Accompanied by diarrhea.

DIGESTION.

Average time required for the digestion of various articles of food :

	<i>Hours.</i>	<i>Min.</i>
Apples, sweet (boiled).....	2	30
Barley (boiled).....	2	
Beans, Lima (boiled).....	2	30
Beef (roasted).....	3	
Beef (fried).....	4	
Beef, salt (boiled).....	2	45
Bread.....	3	30
Butter.....	3	30
Cheese.....	3	30
Chicken (fricasseed).....	2	40
Custard (baked).....	2	45
Duck (roasted).....	4	
Eggs (raw).....	2	
Eggs (soft-boiled).....	3	
Eggs (hard-boiled).....	3	30
Eggs (fried).....	3	30
Fish, various kinds (raw, boiled, fried).....	2	44
Fowl (roast).....	4	
Hashed meat and vegetables (warm).....	2	30
Lamb (boiled).....	2	30
Milk (raw).....	2	15
Milk (boiled).....	2	
Mutton (boiled).....	3	
Mutton (roast).....	3	15
Oysters (roast).....	3	15
Oysters (stewed).....	3	30
Pigs' feet, soused (boiled).....	1	
Potatoes (baked).....	2	30
Pork, salt (stewed).....	3	
Pork (roast).....	3	15
Rice (boiled).....	1	
Sago (boiled).....	1	45
Soup, barley.....	1	30
Soup, chicken, etc. (average).....	3	15
Tripe, soused (boiled).....	1	
Turkey (roast).....	2	30
Veal (boiled).....	4	
Veal (fried).....	4	30

AMERICAN AND IMPORTED PUBLICATIONS (IN ENGLISH) FOR THE YEAR 1899.

The following table does not include Government works or cheap libraries of a lower order:

Fiction	932	Biography and Memoirs...	310
Law	489	Fine Arts and Illus. Books.	214
Juvenile Books.....	448	Physical and Math. Science	204
Literary, History and Miscel.	346	Useful Arts.....	73
Theology and Religion.....	420	Sports and Amusements...	48
Education and Language.....	429	Domestic and Rural.....	58
Poetry and the Drama.....	333	Humor and Satire.....	27
History.....	268	Mental and Moral Philo-	
Medical Science and Hygiene.	123	sophy.....	153
Social and Political Science..	238		
Description and Travel.	218	Total.....	5,321

British publications, the same year, 7,567 works.

Many of the American productions are reprints of English works.

Dates of First Occurrences.

Postoffices were first established in 1464.

Printed musical notes were first used in 1473.

The first watches were made at Nuremberg in 1477.

America was discovered in 1492.

The first printing press was set up at Copenhagen in 1493.

Durer gave the world a prophecy of future wood-engraving in 1527.

Jergens set the spinning wheel in motion in 1530.

Modern needles first came into use in 1545.

The first knives were used in England, and the first wheeled carriages in France, in 1559.

Religious liberty was granted to the Huguenots in France in 1562, and was followed by the massacre of St. Bartholomew in 1572.

Cervantes wrote Don Quixote in 1573.

The first newspaper was published in England in 1588.

Telescopes were invented in 1590.

The first printing-press in the United States was introduced in 1629.

The first air-pump was made in 1650.

The first newspaper advertisement appeared in 1652.

The first copper cent was coined in New Haven in 1687.

The first steam-engine on this continent came from England in 1753.

The first balloon ascent was made in 1783.

The first society for the Promotion of Christian Knowledge was organized in 1698.

The first attempt to manufacture pins in this country was made soon after the war of 1812.

The first prayer-book of Edward VI. came into use by authority of Parliament on Whit-Sunday, 1549.

Glass windows first introduced into England in the **eighteenth** century.

The first steamboat plied the Hudson in 1807.

The first sawmakers' anvil was brought to America in 1819.

The first use of a locomotive in this country was in 1820.

Kerosene was first used for lighting purposes in 1826.

The first horse railroad was built in 1826-7.

The first lucifer match was made in 1829.

The first iron steamship was built in 1830.

The first steel pen was made in 1830.

Omnibuses were introduced in New York in 1830.

Ships were first "copper-bottomed" in 1837.

Envelopes were first used in 1839.

Anæsthesia was discovered in 1844.

Coaches were first used in England in 1569.

The first steel-plate was discovered in 1830.

The Franciscans arrived in England in 1224.

The entire Hebrew Bible was printed in 1488.

Gold was first discovered in California in 1848.

The first telescope was used in England in 1608.

Christianity was introduced into Japan in 1549.

First almanac printed by George Von Furbach in 1460.

Percussion arms were used in the United States Army in 1830.

The first glass factory in the United States was built in 1780.

The first complete sewing-machine was patented by Elias Howe,

Jr., in 1846.

The first temperance society in this country was organized in Saratoga County, N. Y., in March, 1808.

The first coach in Scotland was brought thither in 1501, when Queen Mary came from France. It belonged to Alexander Lord Seaton.

The first daily newspaper appeared in 1702. The first newspaper printed in the United States was published in Boston on September 25, 1790.

The first telegraphic instrument was successfully operated by S. F. B. Morse, the inventor, in 1835, though its utility was not demonstrated to the world until 1842.

The first Union flag was unfurled on the 1st of January, 1776, over the camp at Cambridge. It had thirteen stripes of white and red, and retained the English cross in one corner.

When Captain Cook first visited Tahiti, the natives were using nails of wood, bone, shell and stone. When they saw iron nails, they fancied them to be shoots of some very hard wood, and, desirous of securing such a valuable commodity, they planted them in their gardens.

In 1750 the "shoe-black" came into vogue. The poet Gay, in his day, refers to the business, describing a mother as instructing her son in his calling:

"Go thrive: at some frequented corner stand;
This brush I give thee, grasp it in thy hand;
Temper the foot within this vase of oil,
And let the little tripod aid thy toil."

THE PARIS EXPOSITION OF 1900.

The Paris Universal International Exposition of 1900 was formally declared open by President Loubet April 14, and closed its doors November 12. During its existence 50,000,000 paying visitors passed through its gates. The largest attendance in one day was 600,000. (The number of paying visitors at the Chicago Fair of 1893 was 27,529,000; the largest number of visitors in one day over 700,000.) The French exhibitors at Paris were naturally the most numerous and received the largest number of prizes, but the following is a statement of the awards to the exhibitors of the four foreign nations having the largest representation:

NATION.	Grand Prix.	Gold.	Silver.	Bronze.	Honorable Mention.	Total Awards.	Total No. Exhibitors.
U. States..	215	547	593	501	348	2,204	6,916
Germany..	236	510	575	321	184	1,826	2,689
England..	183	406	517	410	208	1,727	2,959
Russia	209	346	411	321	206	1,493	2,285

In the electrical department, Group 5, the United States led the world, receiving 94 awards, of which 6 were grand prizes. Germany came next in this section, but received only 49 prizes.

In transportation the United States led, receiving 130 awards, with Germany next, 123 prizes, and Great Britain third, having 119 prizes. There were many surprises when the final awards were made and none more so than in the Department of Foodstuffs, Group 10, in which Italy surpassed all other nations, with 306 awards. The United States came fifth with 177 awards.

In Group 11, Mining and Metallurgy, the United States surpassed all nations. This American display was a magnificent one, commanding the admiration of every visitor, and the awards were 133, of which 34 were grand prizes.

73 American citizens—among them two ladies, Mesdames Potter Palmer and Daniel Manning—received the decoration of the Legion of Honor, in recognition of their efforts in behalf of the exposition.

CURE FOR INSOMNIA.

Nothing is more cruel than persistent want of sleep. It is often cured by five grains of sulphonal in hot milk at bed time; repeat in two hours.

SAYINGS OF RENOWNED PERSONS.

Seize life where you will, it is interesting—*Goethe*.

Books are the immortal sons deifying their sires—*Plato*.

Recognized probity is the surest of all oaths.—*Mme. Necker*.

Our humanity were a poor thing but for the divinity that stirs within us.—*Bacon*.

There is nothing of which men are so fond and withal so careless as life.—*Bruyere*.

Christianity commands us to pass by injuries; policy, to let them pass by us.—*Franklin*.

An angry man is (again) angry with himself when he has returned to reason—*Publius Syrus*.

You may depend upon it that he is a good man whose intimate friends are all good.—*Lavater*.

The art of putting well into play mediocre qualities often begets more reputation than true merit achieves.—*Rouche-foucauld*.

If you wish to appear agreeable in society you must consent to be taught many things which you know already.—*Lavater*.

Affectation naturally counterfeits those excellences which are placed at the greatest distance from possibility of attainment.—*Johnson*.

Good nature is the very air of a good mind, the sign of a large and generous soul, and the peculiar soil in which virtue prospers.—*Goodman*.

No man receives the true culture of a man, in whom the sensibility to the beautiful is not cherished; and I know of no condition in life from which it should be excluded.—*Channing*.

Habit is our primal, fundamental law: habit and imitation—there is nothing more perennial in us than these two. They are the source of all working and all apprenticeship, of all practices and all learning, in the world.—*Carlyle*.

There are chords in the human heart—strange, varying strings—which are only struck by accident: which will remain mute and senseless to appeals most passionate and earnest, and respond at last to the slightest casual touch.—*Dickens*.

DESCRIPTION OF THE AREA OCCUPIED BY, AND EARLY SETTLEMENT OF, THE UNITED STATES.

The greatest length of the territory from the Atlantic to the Pacific Ocean, occupied by the United States, on the parallel of 42° , is 2,768 miles; and its greatest breadth, from Point Isabel, Tex., to the northern boundary of North Dakota, is 1,650 miles. The Mexican boundary line is 1,500 miles in length. The boundary line separating the United States from the British possessions is about 3,400 miles long.

The first attempt at civilized settlement, in the United States, was made on the Island of Roanoke, off the coast of North Carolina, where a colony from England was placed, under the command of Sir Richard Grenville, in 1585. Having trouble with the Indians, several of the settlers were killed, and the remainder returned to England. In 1587 John White landed a party of 108 persons, and returned to England after founding the city of Raleigh named after Sir Walter Raleigh. Here Virginia Dare, the first white child, native of the United States, was born. In 1590, John White returned with a fleet, but all traces of the colonists, left three years before, had vanished. Their fate has never been ascertained.

In 1540, French fur-traders founded a settlement on Manhattan Island, where the city of New York now stands, but the next year they abandoned the country. A party of Huguenots, driven from France, sought refuge in South Carolina, where they built Port Royal, in 1562; but subsequent famine compelled them to abandon the colony. In 1565, the Spaniards, on the east coast of Florida, founded St. Augustine, the oldest existing town in the United States. The first permanent English settlement was made at Jamestown, Virginia, in 1607; the colony consisting of 105 emigrants, more than one-half of whom died within six months, from privation or at the hands of the Indians. Newly arrived immigrants from England, however, swelled the number of colonists to 200, in the year 1610.

Hendrick Christenson, a Hollander, in 1612, made a small redoubt enclosing four log huts, as a place in which to live and receive furs, on Manhattan Island, on the site where is now located No. 29 Broadway, New York City. A Dutch settlement, in 1614, was founded at Albany, N. Y. In 1620, the Puritans, a company of British refugees, numbering 102 persons, landed at Plymouth, Mass., at a point known as Plymouth Rock. In 1623 the Virginia colonists, then numbering 2,500, feeling themselves strong enough, attacked the Indians; this resulted in a desultory warfare which continued for 24 years.

RAILROAD MILEAGE OF THE WORLD.

At the Beginning of the Year 1899.

COUNTRIES.	MILES.
United States	186,245
British North America..	16,867
Newfoundland	592
Mexico	8,498
Central America.....	646

Total, North America, 212,848

United States of Colum- bia.....	346
Cuba.....	1,133
Venezuela.....	633
San Domingo.....	177
Brazil.....	8,718
Argentina	9,822
Paraguay.....	157
Uruguay.....	1,118
Chile.....	2,662
Peru.....	1,035
Bolivia.....	621
Ecuador.....	186
British Guiana.....	22
Jamaica, Barbadoes, Trin- idad, Martinique, Por- to Rico, Salvador.....	618

Total, South America
and W. Indies..... 27,188

British India.....	21,973
Ceylon	297
Asia Minor and Syria....	1,558
Russia (Transcaspian District).....	1,568
Siberia.....	2,573
Persia.....	34
Dutch India.....	1,293
Japan.....	2,948
Portuguese India.....	51
Malay Archipelago.....	188
China.....	401
Siam.....	167
Cochin China, Pondi- cherry, Malacca and Tonquin.....	238

Total Asia..... 33,289

COUNTRIES	MILES.
All of Germany.....	30,777
Austro-Hungary (includ- ing Bosnia, etc.)	21,805
Great Brit'n and Ireland,	21,529
France	25,898
Russia (incl. Finland)...	26,414
Italy.....	9,759
Belgium.....	3,781
Netherlands (including Luxembourg)	1,965
Switzerland.....	2,303
Spain.....	8,303
Portugal	1,467
Denmark	1,618
Norway..	1,230
Sweden.....	6,359
Servia.....	354
Roumania.....	1,895
Greece.....	591
European Turkey, Bul- garia and Roumania..	1,595
Malta, Jersey, Man.....	68

Total, Europe..... 167,510

Egypt.....	2,085
Algiers and Tunis.....	2,704
Cape Colony.....	2,384
Natal.....	459
South African Republic,	774
Orange Free State....	832
Mauritius, Reunion, Con- go, Senegal and other states.....	2,011

Total, Africa..... 11,214

Australasia..... 14,490

Recapitulation:

Europe	167,510
North America.....	212,848
South Americans.....	26,187
Asia.....	33,289
Africa.....	11,214
Australasia.....	14,490

Total.. .. 466,539

RECORDS OF RAILROAD SPEED.

The fastest time on record was made by the Empire State express on the New York Central and Hudson River Railroad, May 11, 1893, in a run of one mile from Crittenden west, which was made in 32 seconds, being equivalent to 112½ miles an hour. This was done with locomotive 999 (afterwards exhibited at the World's Fair, at Chicago), the engineer being Charles Hogar.

The fastest time on record for a distance of over 440 miles was made by the Knights of Pythias' special Jacksonville, Fla., to Washington, D. C., August 26 and 27, 1894, via the Plant system, Atlantic Coast Line, Richmond, Fredericksburg and Potomac Railroad, 780.9 miles. Total time, 15 hours 49 minutes, with thirty-four stops, consuming 1 hour 10 minutes. Average speed, including stops, 49.37 miles per hour; excluding stops, 53.29 miles per hour. The train was made up of four cars, one baggage, one coach, and two sleepers, 242,300 pounds.

The fastest long-distance run was on the New York Central Railroad, September 14, 1891, from New York City to East Buffalo, 436½ miles, in 425 minutes 14 seconds actual time, or 439½ miles, including three stops. Average speed, including stops, 61.56 miles an hour.

The Jarrett & Palmer special theatrical train, Jersey City to San Francisco, June, 1886, made the fastest time between the two oceans—3 days, 7 hours, 39 minutes and 16 seconds.

The following Table shows the fastest recorded runs of locomotives for short distances:

DATE.	Railroad.	Terminals.	Dis- tance, Miles.	Grade Ft. per Mile Descending.	Time, M. S.	Miles per Hour.	Load.
Aug., 1891.	Phil. & Reading.....	Somerton—	1	37.....	0.39.8	90.5	3 cars
May, 1892.	Phil. & Reading.....	.....	10	.....	.....	79.6	4 cars
Nov., 1892.	Phil. & Reading.....	Somerton—Parkland....	5	11.37 & level	3.25	87.8	4 cars
Nov., 1892.	Central of New Jersey.....	Fanwood—Westf'd, N. J..	1	32.....	0.37	97.3	4 cars
May, 1893.	N. Y. Central & H. R..	Grimesville—	1	20 approx....	0.35	102.8	4 cars
May, 1893.	N. Y. Central & H. R..	Looneyville—Grim'sville.	1	20 approx....	0.32	112.5	4 cars
May, 1893.	N. Y. Central & H. R..	Landover—Anacosta..	5	20 approx....	3.00	100	4 cars
Aug., 1895.	Pennsylvania.....	.....	5.1	.....	3.00	102	.....

The fastest regular trains in the United States are believed to be those between Washington and Baltimore, on the Baltimore and Ohio Railroad, 40 miles in 45 minutes, a speed of 53.33 miles an hour. The run from Washington to New York, 225.3 miles is made in 5 hours. Deducting 12 minutes for the Jersey City Ferry and 10 minutes for the Canton Ferry, the rate of speed is 48.6 miles per hour. The "Congressional Limited" on the Pennsylvania Ry., also makes the run in 5 hours 5 minutes, but the distance is 227 miles.

PROGRESS OF MERCHANT SHIPPING.

Merchant Vessels (Sail and Steam) belonging to the United States, Great Britain, France, and Germany, respectively, in each of the years 1850, 1860, 1870, 1880, 1885 and 1890.

YEAR.	DESCRIP- TION.	U. S. OF AMERICA.*			GREAT BRITAIN.†			FRANCE.			GERMANY.‡		
		No.	Net Tonnage		No.	Net Tonnage		No.	Net Tonnage		No.	Net Tonnage	
1850	Sail.....	.....	1,540,769		24,797	3,396,659		14,228	674,205		.....	.....	
	Steam.....	.....	44,942		1,187	168,474		126	13,925		.....	.....	
	Total...	.....	1,585,711		25,984	3,565,133		14,354	688,130		2,742	310,752	
1860	Sail.....	.....	2,448,941		25,663	4,204,360		14,608	928,099		.....	.....	
	Steam.....	.....	97,296		2,000	454,327		314	68,025		.....	.....	
	Total...	.....	2,546,237		27,663	4,658,687		14,922	996,124		3,550	825,379	
1870	Sail.....	.....	1,324,256		23,187	4,577,855		14,929	920,826		4,372	900,361	
	Steam.....	.....	192,544		3,178	1,112,934		457	151,415		147	81,994	
	Total...	.....	1,516,800		26,365	5,690,789		15,386	1,072,241		4,519	982,355	
1880	Sail.....	.....	1,206,206		19,938	3,851,045		14,406	641,539		4,246	965,767	
	Steam.....	.....	146,606		5,247	2,723,468		652	277,759		414	215,758	
	Total...	.....	1,352,810		25,185	6,574,513		15,058	919,298		4,660	1,181,525	
1885	Sail.....	1,937	1,101,593		17,018	3,456,562		14,329	507,819		3,471	861,844	
	Steam...	182	186,406		6,644	3,973,483		937	492,396		664	420,605	
	Total...	2,119	1,287,999		23,662	7,430,045		15,266	1,000,215		4,135	1,282,449	
1890	Sail.....	.....	827,124		14,181	3,055,136		14,128	440,051		2,757	709,761	
	Steam.....	.....	194,471		7,410	8,095,370		1,066	492,684		896	723,652	
	Total...	.....	1,021,595		21,591	11,150,506		15,194	932,735		3,653	1,433,413	

* The figures for the United States do not include vessels employed in the river, lake and coasting trades. Such vessels are prohibited by law from going on foreign voyages.

† The figures for Great Britain include all registered vessels without any limit of tonnage.

‡ Vessels of less than 17.65 tons are not included.

COMPARATIVE STATISTICS OF RAILROADS IN THE UNITED STATES. 1879-1892.

YEAR ENDING	Capital Stock.	Miles of Line Worked.	Funded Debt.	Gross Earnings.	Net Earnings.	Interest Paid.	Dividends Paid.
1887...	4,191,562,029	137,028	4,186,943,116	940,150,702	334,989,119	203,790,352	91,573,458
1888...	4,438,411,342	145,387	4,624,035,023	960,256,270	301,631,051	207,124,288	80,243,041
1889...	4,495,099,318	152,745	4,828,365,771	1,003,736,596	322,284,986	219,877,150	81,264,029
1890...	4,640,239,578	158,037	5,105,902,025	1,090,642,560	346,921,318	226,799,682	85,075,705
1891...	4,809,176,651	164,234	5,223,295,074	1,138,024,459	356,209,880	231,259,810	90,719,757
1892...	4,920,555,225	170,668	5,463,611,204	1,204,915,204	358,638,520	232,569,089	95,662,412
1893...	5,080,032,904	173,433	5,570,292,613	1,222,618,290	364,591,109	239,616,284	95,337,681
1894...	5,075,629,070	175,508	5,665,734,249	1,080,305,015	322,539,276	237,620,367	85,278,669
1895...	5,231,373,852	179,887	5,712,052,517	1,105,284,267	327,505,716	242,943,243	83,175,774
1896...	5,290,730,567	180,891	5,426,074,969	1,125,632,025	332,333,756	242,415,494	81,364,854
1897...	5,453,782,046	181,133	5,411,058,525	1,132,866,626	338,170,195	231,046,819	82,630,989
1898...	5,581,522,858	184,194	5,635,363,594	1,249,558,724	389,666,474	237,133,099	94,937,526
1899...	5,742,181,181	186,280	5,644,858,027	1,336,096,379	447,741,014	239,178,913	109,032,252

RAILROAD FACTS.

The cost of railroads in the United States has been nine billion dollars. One million persons are employed by the railroads of the United States. The cost of a palace sleeping-car is \$15,000, or if "vestibuled," \$17,000. The average cost of constructing a mile of railroad in the United States, at the present time, is about \$30,000. The average daily earning of an American locomotive is about \$100. The "consolidation" locomotive weighs 50 tons and is able to draw on a level over 2,400 tons. The longest mileage operated by a single system is that of the Union Pacific—10,928 miles. The line of railroad which extends farthest east and west is the Canadian Pacific, running from Quebec to the Pacific Ocean. There are 60 miles of snow-sheds on the Central Pacific Railroad. The highest railroad in the United States is the Colorado Midland, at the Continental Divide—11,530 feet.

SHRINKAGE OF CASTINGS.

Tin—One-fourth inch in a foot.
Pipes—One-eighth inch in a foot.
Zinc—Five sixteenths inch in a foot.
Lead—Five sixteenths inch in a foot.
Copper—Three-sixteenths inch in a foot.
Thin Brass—One-eighth inch in nine inches.
Thick Brass—One-eighth inch in ten inches.
Bismuth—Five-thirty-seconds inch in a foot.
Locomotive Cylinders—One sixteenth inch in a foot.
Beams, Girders, etc.—One-eighth inch in fifteen inches.
Engine-beams, Connecting-rods, etc.—One-eighth inch in sixteen inches.

Center of Population in the United States.

DATE.	POSITION OF CENTER OF POPULATION.	WESTWARD MOVEMENT.
1790..	23 miles E. of Baltimore, Md.....	—
1800..	18 miles W. of Baltimore, Md.....	41 miles.
1810..	40 miles N. W. by W. of Washington, D. C.	36 miles.
1820..	16 miles N. of Woodstock, Va.....	50 miles.
1830..	19 miles W. S. W. of Moorefield, W. Va.....	39 miles.
1840..	16 miles S. of Clarksburg, W. Va.....	55 miles.
1850..	23 miles S. E. of Parkersburg, W. Va.....	55 miles.
1860..	20 miles S. of Chillicothe, O.....	81 miles.
1870..	48 miles E. by N. of Cincinnati, O.....	42 miles.
1880..	8 miles W. by S. of Cincinnati, O.....	58 miles.
1890..	20 miles E. of Columbus, Ind.....	43 miles.
1900..	7 miles S. E. of Columbus, Ind.....	13 miles.

Western movement in 110 years.....513 miles.

ALCOHOL! WHO DRINKS IT?

It has been the endeavor of the census-takers, in 1890, to obtain, as far as possible, such facts as relate to the *Use of alcohol as a beverage*. It appears that alcohol, as such (in some cases diluted with water, but without any coloring or extraneous flavoring), is used by a certain foreign element of our population. It is drunk to a great extent by Poles, Norwegians, Swedes, Finns, Hungarians and Russians. The quantity thus consumed is larger than is generally supposed. Inquiry of some of the large houses in the Northwest, familiar with this particular trade, elicits the information that fully one-half of the alcohol sold in that section is drunk, it being the favorite beverage of these foreign races. It is estimated, by competent authority, that about fifteen barrels of alcohol are daily consumed for that purpose in New York city alone. A considerable amount is consumed by the same element in the coal regions of Pennsylvania, and undoubtedly in other localities.

TELEGRAPH STATISTICS OF THE WORLD.

COUNTRIES.	MILES OF LINE.	COUNTRIES.	MILES OF LINE.
Algeria.....	3,645	Montenegro.....	280
Austria-Hungary.....	32,684	Netherlands.....	2,660
Bavaria.....	5,215	New South Wales.....	10,000
Belgium.....	3,713	New Zealand.....	4,074
Bolivia.....	182	Nicaragua.....	800
Brazil.....	4,888	Norway.....	5,629
Bulgaria.....	1,325	Orange Free State.....	276
Canada.....	23,330	Paraguay.....	45
Cape of Good Hope.....	4,031	Persia.....	3,647
Chili.....	6,840	Peru.....	550
China.....	3,089	Portugal.....	2,920
Columbia.....	2,357	Queensland.....	6,614
Costa Rica.....	450	Roumania.....	3,000
Cuba.....	2,835	Russia.....	65,726
Denmark.....	2,283	San Salvador.....	750
Dutch East Indies.....	3,682	Servia.....	1,405
Egypt.....	3,222	South Australia.....	5,278
France.....	46,932	Spain.....	10,733
Germany.....	47,637	Sweden.....	5,347
Great Britain & Ireland.....	27,604	Switzerland.....	4,270
Greece.....	3,720	Tasmania.....	1,273
Guatemala.....	2,880	Transvaal.....	110
Hawaii.....	175	Tunis.....	2,500
Honduras.....	1,800	Turkey.....	14,617
India, British.....	21,740	United States.....	215,764
Italy.....	17,258	Uruguay.....	1,405
Japan.....	4,733	Victoria.....	3,600
Luxemburg.....	196	Western Australia.....	2,359
Mexico.....	19,000		
Total Miles.....		673,168	

One Dollar loaned for 100 years at the following rates of interest compounded will amount to the figures set opposite the per cent at the end of that time;

3 per cent.....	\$ 19.25
6 " ".....	540.00
8 " ".....	2,203.00
10 " ".....	13,809.00
12 " ".....	85,075.00
18 " ".....	15,145,007.00
24 " ".....	2,551,799,404.00

The moral is—*lend instead of borrow.*

The Metropolitan Police District, of London, England, extends over a radius of 15 miles from Charing Cross, exclusive of the City of London—688.31 square miles—with a ratable value of £25,089,558. The number of new houses built since 1849 is 525,107, with 3,532 in course of erection, the new mileage being 1,888; total length patrolled, 8,360 miles.

THE WESTERN UNION TELEGRAPH COMPANY.

Statement Exhibiting the Mileage of Lines Operated, Number of Offices, Number of Messages Sent, Receipts, Expenses and Profit for Each Year from 1874 to 1900.

YEARS.	MILES OF POLES AND CABLES.	MILES OF WIRE.	OFFICES.	MESSAGES.	RECEIPTS.	EXPENSES.	PROFITS.
1874	71,585	175,735	6,188	16,329,256	9,262,654	6,755,734	2,506,920
1875	72,833	179,496	6,565	17,153,710	9,564,575	6,335,415	3,229,158
1876	73,832	183,832	7,072	18,729,567	10,034,984	6,635,474	3,399,516
1877	76,955	194,323	7,500	21,158,941	9,812,253	6,672,223	3,140,128
1878	81,000	206,202	8,014	23,918,894	9,861,355	6,309,813	3,551,543
1879	82,987	211,566	8,534	25,070,106	10,960,640	6,160,200	4,800,443
1880	85,645	233,534	9,077	29,215,509	12,782,895	6,948,957	5,833,938
1881	110,340	327,171	10,837	32,500,000	14,393,544	8,485,264	5,908,280
1882	131,060	374,368	12,068	38,842,247	17,114,166	9,996,096	7,118,070
1883	144,294	432,726	12,917	41,181,177	19,454,903	11,794,553	7,660,350
1884	145,037	450,571	13,761	42,076,226	19,632,940	13,022,504	6,610,436
1885	147,500	462,283	14,184	42,096,583	17,706,834	12,005,910	5,700,924
1886	151,832	489,607	15,142	43,289,807	16,298,639	12,378,783	3,919,855
1887	156,814	524,641	15,658	47,394,530	17,191,910	13,154,629	4,037,281
1888	171,375	616,248	17,241	51,463,955	19,711,164	14,640,592	5,070,572
1889	178,754	647,697	18,470	54,108,326	20,783,194	14,565,153	6,218,041
1890	183,917	678,997	19,382	55,878,762	22,387,028	15,074,303	7,312,725
1891	187,981	715,581	23,393	60,148,343	23,084,326	16,428,041	6,605,584
1892	189,936	769,201	21,078	66,591,858	24,978,442	17,482,405	7,496,037
1893	190,303	790,792	21,166	58,632,237	21,852,655	16,060,170	5,792,485
1894	189,714	802,651	21,360	58,307,315	22,218,019	16,076,629	6,141,389
1895	189,918	826,929	21,725	58,760,444	22,612,736	16,714,756	5,897,980
1896	190,614	841,002	21,769	58,151,684	22,638,859	16,906,656	5,732,203
1897	189,847	874,420	22,210	62,173,749	23,915,732	17,825,581	6,090,151
1898	189,856	904,633	22,285	61,398,157	23,954,312	18,085,579	5,868,732
1899	192,705	933,153	22,900	63,167,783	24,758,569	18,593,205	6,165,363
1900							

UNITED STATES CURRENCY CIRCULATION.

The Secretary of the Treasury has prepared the following Table in response to numerous requests from all parts of the country.

FISCAL YEAR*	Amount in Circulation.	Circulation per capita	FISCAL YEAR*	Amount in Circulation	Circulation per Capita.	FISCAL YEAR*	Amount in Circulation.	Circulation per Capita.
1860..	\$435,407,252	\$13.85	1879..	\$818,631,793	\$16.75	1890..	\$1,429,251,270	\$22.82
1865..	714,702,995	20.57	1880..	973,382,228	19.41	1891..	1,500,067,555	23.45
1870..	655,212,794	17.50	1881..	1,114,238,419	21.71	1892..	1,601,347,187	24.44
1871..	715,889,005	18.40	1882..	1,174,290,419	22.37	1893..	1,596,701,245	23.85
1872..	738,309,649	18.19	1883..	1,230,305,696	22.91	1894..	1,661,835,674	24.30
1873..	751,881,809	18.04	1884..	1,243,925,969	22.65	1895..	1,604,131,968	22.96
1874..	776,083,031	18.13	1885..	1,292,568,615	23.02	1896..	1,506,631,026	21.10
1875..	754,101,947	17.16	1886..	1,252,700,525	21.82	1897..	1,640,808,946	22.49
1876..	727,609,338	16.12	1887..	1,317,539,143	22.45	1898..	1,837,859,895	24.66
1877..	722,314,883	15.58	1888..	1,372,170,870	22.88	1899..	1,904,071,881	25.00
1878..	720,132,634	15.32	1889..	1,380,361,649	22.52	1900..	2,113,294,983	27.01

*Fiscal year ended June 30.

STATEMENT SHOWING the amounts of Gold and Silver Coins and Certificates, U. S. Notes, and National Bank Notes, in circulation Oct. 1, 1900, prepared by the Division of Loans and Currency, Treasury Department.

	General Stock Coined or Issued	In Treasury.	Am't in Circulation Oct. 1, 1900	Am't in Circulation Oct. 1, 1899
Gold Coin (including bullion in Treasury)	\$1,059,288,820	\$230,131,162	\$620,047,309	\$646,561,185
Gold Certificates.....			209,110,349	98,673,559
Standard Silver Dollars..	498,349,343	6,907,343	71,176,265	68,755,243
Silver Certificates.....			420,265,735	400,153,881
Subsidiary Silver.....	86,000,748	6,568,555	79,432,193	74,045,762
Treasury Notes of 1890.....	67,714,000	113,812	67,600,188	89,957,175
United States Notes.....	346,681,016	20,354,702	324,506,314	314,954,600
Currency Certificates, Act June 8, 1872			1,820,000	15,870,000
National Bank Notes ..	328,416,428	9,079,798	319,336,630	239,731,781
Totals....	\$2,386,450,355	\$273,155,372	\$2,113,294,983	\$1,948,703,186

RECEIPTS AND EXPENDITURES U. S. GOVERNMENT, 1891-1900. REVENUE BY FISCAL YEARS.

Years ending June 30	Customs.	Internal Revenue.	Sales of Public Lands.	Miscellaneous Sources.			Total Revenue.	Excess of Revenue over Ordinary
				Premiums on Loans & Sales of Gold Coin.	Miscellaneous Items.	Other Items.		
1891..	219,522,205	145,686,249	4,029,535	....	23,374,457		392,612,447	26,838,542
1892....	177,452,964	153,971,072	3,261,876	....	20,251,872		354,937,784	9,914,454
1893....	203,355,017	160,296,130	3,182,090	....	18,253,898		385,818,629	2,341,674
1894....	131,818,531	147,111,232	1,673,637	....	17,118,618		297,722,019	69,803,261
1895....	152,158,617	143,421,672	1,103,347	....	16,706,438		313,390,075	42,805,223
1896....	160,021,752	146,762,865	1,005,523	....	19,186,061		326,976,200	25,203,246
1897....	176,554,126	146,688,774	864,581	....	23,614,422		347,721,905	18,052,254
1898....	149,819,594	169,943,040	1,243,129	....	83,505,319		404,511,082	38,864,305
1899..	206,141,225	272,486,648	....	....	37,024,793		515,652,666	89,898,667
1900....	233,164,871	295,327,927	2,836,883	....	35,911,171		567,240,852	79,527,060

EXPENDITURES BY FISCAL YEARS.

Years Ending June 30.	Premiums and Loans and Purchase of Bonds, etc.	Other Civil and Miscellaneous Items	Department. War	Navy De- partment.	Indians.	Pensions.	Interest on Public Debt.	Total Ordinary Expendi- tures.
1891..	10,401,221	110,048,167	48,720,065	26,113,896	8,527,469	124,415,951	37,547,135	365,773,905
1892..		99,841,988	46,895,456	29,174,139	11,150,478	134,583,053	23,378,116	334,450,233
1893..		103,732,799	49,641,773	30,136,084	13,345,347	159,357,558	27,264,392	383,477,954
1894..		102,165,171	54,567,930	31,701,294	10,293,482	141,177,235	27,841,406	367,746,867
1895..		93,279,730	51,804,759	28,797,796	9,939,754	141,395,229	30,978,030	356,195,298
1896..		87,216,235	50,830,921	27,147,732	12,165,528	139,434,001	35,385,029	352,179,446
1897..		90,401,267	48,950,267	34,561,546	13,016,802	141,053,164	37,791,110	365,774,159
1898..		96,546,303	91,957,802	58,848,763	10,986,523	147,450,940	37,585,056	443,375,387
1899..		119,834,761	228,834,154	64,814,440	12,784,676	139,387,353	39,895,940	605,551,323
1900..		105,773,190	134,774,768	55,953,078	10,175,107	140,877,316	40,160,333	487,713,792

WEIGHT OF VARIOUS MATERIALS IN LBS. (AVOIRDUPOIS) PER CUBIC FOOT.—Pure Gold 1,203.6, Standard Gold 1,102.9, Hammered Gold 1,210.11, Pure Silver 654.6, Hammered Silver 656.9, Standard Silver 658.4, Cast Brass 524.8, Brass Wire 534, Bismuth (Cast) 613.9, Antimony 418.9, Bronze 513.4, Cobalt (Cast) 488.2, Copper (Cast) 459.3, Copper (Sheet) 557.2, Copper (Wire) 554.9, Wrought Iron 486.75, Iron Plates 481.5, Cast Iron 450.4, Gun Metal 543.75, Cast Lead 709.5, Rolled do. 711.75, Red Lead 558.75, Tin 455.7, Platinum (Pure) 1,218, Hammered do. 1,271, Mercury 60 deg., Fluid 848, Mercury (Solid) 977, Nickel (Cast) 487.9, Steel (Plates) 480.75, Steel (Soft) 489.6, Type Metal 653.1, Zinc (Cast) 439, Granite 165.75, Millstone 155.3, Marble (Mean, of nineteen kinds) 180, Grindstones 133.9, Firebrick 137.5, Tile 114.44, Brick (Mean) 102, Clay 102, Limestone (Mean, of seven sorts) 184.1, Loose Earth or Sand 95, Coarse Sand 112.5, Ordinary Soil 124, Mud 102, Clay and Stones 160, Slate 167 to 181.25, Plaster Paris 73.5, Plumbago 131.35, Anthracite Coal from 89.75 to 102.5, Cannel Coal from 77.33 to 82.33, Charcoal from Hard Wood 18.5, ditto from Soft Wood 18, Port Wine 62.31, Fresh Water 62.5, Sea Water 64.3, Dead Sea Water 77.5, Vinegar 67.5, Alum 107.10, Asbestos (Starry) 192.1, Ice at 32 degs. 57.5, Sulphur 127.1, Peat 375 to 83.1, Marl (Mean) 109.33, Hydraulic Lime 171.60, Quartz 166.25, Rock Crystal 170.94, Salt (Common) 133.12, Lard 59.20, Whale Oil 57.70, Olive Oil 57.19.

WEIGHT OF A CUBIC INCH OF VARIOUS METALS IN POUNDS.—Hammered Gold .701 lbs., Cast do (pure) .698, 20 Carats Fine do. .567, Hammered Silver .382, Pure do. .378, Cast Steel .287, Cast Iron .263, Sheet Iron .279, Rolled Platinum .797, Wire do .762, Hammered do .735, Sheet Copper .323, Sheet Brass .304, Lead .410, Cast Tin .264, Cast Zinc .245.

SUNDRY COMMERCIAL WEIGHTS.—A ton of wood is 2 stones of 14 lbs. each. A pack of wool is 240 lbs. A sack of wool is 22 stones of 14 lbs., or 308 lbs. In Scotland, it is 24 of 16 lbs. A keel of 8 Newcastle chaldrons is $15\frac{1}{2}$ London chaldrons. 56 or 60 lbs. is a truss of hay, 40 lbs. a truss of straw; 36 trusses a load. A bushel of rock salt is 65 lbs., of crushed salt 56 lbs., of foreign salt, 84 lbs. A tierce of beef, in Ireland, is 304 lbs., and of pork 320 lbs. A fodder of lead is $19\frac{1}{2}$ cwt. in London and 21 cwt. in the North. A man's load is 5 bushels, a market load 40 (or 5 quarters). A last is 10 quarters of corn, or 2 cart loads, 12 sacks of wool, 24 barrels of gunpowder, 12 barrels of ashes, herring, soap, &c., and 18 barrels of salt. A hundred of salt 126 barrels.

SUNDRY MEASURES OF LENGTH.—The hair's breadth is the smallest, of which 48 are an inch. Four barley-corns laid breadthways are $\frac{3}{4}$ of an inch, called a digit, and 3 barley-corns lengthways are an inch. An inch is divided into 12 lines and by mechanics into 8ths. A nail used in cloth measure is $2\frac{1}{4}$ ins. or the 16th of a yard. A palm is 3 ins, and a span 9 ins. An English Statute mile is 1,760 yds. or 5,280 ft., an Irish mile 2,240 yds., a Scotch mile 1,984 yds., 80 Scotch miles being equivalent to 91 English, and 11 Irish to 14 English.

Marriage and Divorce Laws of all the States and Territories.

Marriage, Licenses.—Required in all the States and Territories except Dakota, Montana, New Mexico, New Jersey, and New York. In Maryland legal marriage can be had only by an ordained minister.

Marriage, Prohibition of.—Marriage between whites and persons of negro descent are prohibited and punishable in California, Colorado, Delaware, Georgia, Florida, Kentucky, Maryland, Mississippi, Missouri, Nebraska, North Carolina, Oregon, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

Marriages between whites and Indians are prohibited in Arizona and North Carolina.

Marriages between whites and Chinese are prohibited in Arizona.

The marriage of first cousins is forbidden in Arkansas, Dakota, Indiana, Kansas, Montana, Nevada, New Mexico, Ohio, Washington and Wyoming, and in some of them is declared incestuous and void.

Marriage, Age to Contract.—In New Jersey and Ohio males under twenty-one years and females under eighteen years of age must obtain the consent of parents or guardians. In Massachusetts a marriage between a male over fourteen and a female over twelve is legal, even without the consent of parents.

Marriage, Presumption of.—In Missouri it has been held that where parties cohabit and represent themselves as husband and wife, a marriage is presumed, and when parties capable of contracting agree, in express terms, with each other, to be husband and wife, and cohabit as such, the marriage is valid, without any further ceremony being performed. In California marriage is declared a

civil contract; consent, followed by a mutual assumption of marital rights and obligations, is sufficient.

Divorce, Previous Residence Required.—**Dakota, ninety days; Arizona, Idaho, Nebraska, Nevada, and Wyoming, six months; Colorado, Illinois, Iowa, Kansas, Kentucky, Maine, Mississippi, Minnesota, Montana, New Hampshire, Ohio, Oregon, Pennsylvania, Rhode Island, Vermont (both parties, as husband and wife), West Virginia, and Wisconsin, one year; Florida, Indiana, Maryland, North Carolina, and Tennessee, two years; Connecticut, Massachusetts, and New Jersey (for desertion), three years.**

Divorce, Causes for.—The violation of the marriage vow is cause for absolute divorce in all the States, excepting South Carolina, which has no divorce law.

Willful desertion, one year, in Arizona, Arkansas, Colorado, Dakota, Florida, Idaho, Kansas, Kentucky, Montana, Nevada, Rhode Island, Utah, Wisconsin and Wyoming.

Willful desertion, two years, in Alabama, Illinois, Indiana, Iowa, Michigan, Mississippi, Nebraska, Pennsylvania, Tennessee.

Willful desertion, three years, in Connecticut, Delaware, Georgia, Maine, Maryland, Massachusetts, Minnesota, New Hampshire, New Jersey, Ohio, Oregon, Vermont, and West Virginia.

Willful desertion, five years, in Virginia.

Habitual drunkenness, in all the States, except Louisiana, Maryland, New Jersey, New York, North Carolina, Pennsylvania, South Carolina, Texas, Vermont, Virginia, and West Virginia.

"Imprisonment for felony" or "conviction of felony," in all the States, except Florida, Louisiana, Maine, Maryland, Nevada, New Jersey, New York, North Carolina, Rhode Island, South Carolina, and Wisconsin.

"Cruel and abusive treatment," "intolerable cruelty," "extreme cruelty," or "inhuman treatment," in all the States, except Florida, Kentucky, Louisiana, Maryland, Michigan, New York, North Carolina, Pennsylvania, South Carolina, Tennessee, and West Virginia.

Failure to provide, one year, in California, Nevada,

and Wyoming; two years in Indiana and Idaho; three years in Massachusetts; no time specified in Maine, Nebraska, Rhode Island, and Vermont. "Gross neglect of duty," in Kansas; willful neglect for three years, in Delaware.

Fraud and fraudulent contract, in Connecticut, Georgia, Idaho, Kansas, Ohio, and Pennsylvania.

Absence without being heard of, in New Hampshire; absence two years, in Tennessee; seven years, in Connecticut and Vermont; absence, without reasonable cause, one year, in Missouri: separation five years, in Kentucky; voluntary separation, five years, in Wisconsin.

Ungovernable temper, in Kentucky; "habitual indulgence in violent and ungovernable temper," in Florida; "such indignities as make life intolerable," in Missouri and Wyoming; "indignities as render life burdensome," in Oregon and Pennsylvania.

Other causes in different States are as follows: "Husband notoriously immoral before marriage, unknown to wife," in West Virginia; "fugitive from justice," in Virginia; "gross misbehavior or wickedness," in Rhode Island; "attempt on life," in Illinois; "refusal of wife to move into the State," in Tennessee; "mental incapacity at time of marriage," in Georgia; "three years with any religious society that believes the marriage relation unlawful," in Massachusetts; "joining any religious sect that believes marriage unlawful, and refusing to cohabit six months," in New Hampshire; "parties cannot live in peace and union," in Utah; "settled aversion, which tends to permanently destroy all peace and happiness," in Kentucky.

In Georgia an absolute divorce is granted only after the concurrent verdict of two juries, at different terms of the court. In New York absolute divorce is granted for but one cause, adultery. In South Carolina there is no divorce law.

All of the causes above enumerated are for absolute or full divorce.

Divorce, Remarriage.—There are no restrictions upon remarriage, by divorced persons, in Connecticut, Kentucky, Illinois, and Minnesota. Either party may

remarry, but defendant must wait two years, and obtain permission from the court, in Massachusetts. The decree of the court may restrain the guilty party from remarrying in Virginia. Parties cannot remarry until after two years, except by permission of the court, in Maine. In the State of New York the plaintiff may remarry, but the defendant cannot do so during the plaintiff's lifetime, unless the decree be modified or proof that five years have elapsed, and that complainant has married again, and defendant's conduct has been uniformly good. Any violation of this is punished as bigamy, even though the other party has been married.

The courts of every State, and particularly of New York, are very jealous of their jurisdiction; and generally refuse to recognize as valid a divorce against one of the citizens of the State by the court of another State, unless both parties to the suit were subject at the time to the jurisdiction of the court granting the divorce.

Kansas courts grant divorces for the reason that the applicant's husband or wife has obtained a divorce in another State, and the applicant has been forbidden to remarry. If a wife in New York obtains a divorce from her husband, and he is forbidden to remarry, he may go to Kansas and obtain a divorce on that ground. If his wife contests the case, or can be served with the papers in Kansas, so that she is brought under the jurisdiction of the Kansas court, the courts of New York must recognize the divorce as valid, and cannot punish the husband for remarrying in New York.

New York permits polygamy and polyandry in certain cases. Desertion for five years, without knowledge that the deserter is living, permits the one deserted to marry again; and the second marriage is valid, though the deserter returns. The second marriage may be declared void, but only from the date of the decree, by a court of competent jurisdiction, upon proper petition; but if no such petition is made, and all parties are satisfied, one husband may live in lawful wedlock with two or more wives, or one wife with two or more husbands. The children will inherit, and both wives will be entitled to dower.

MASON AND DIXON'S LINE.

A name given to the southern boundary line of Pennsylvania, which formerly separated it from the slave States of Maryland and Virginia. It was run—with the exception of about twenty-two miles—by Charles Mason and Jeremiah Dixon, two English surveyors, between Nov. 15, 1763, and Dec. 26, 1767. During the excited debate in Congress, in 1820, on the question of excluding slavery from Missouri, John Randolph of Roanoke made great use of this phrase, which was caught up and re-echoed by every newspaper in the land, and thus gained a celebrity which it still retains.

Air-Line Distances from Washington to Various Parts of the World

	Miles.		Miles.
Alexandria, Egypt.....	5,275	Manilla, Phillipine Islands	9,360
Amsterdam, Holland.....	3,555	Mecca, Arabia.....	6,598
Athens, Greece.....	5,005	Muscat, Arabia.....	7,600
Aukland, New Zealand....	8,290	Monrovia, Liberia.....	3,645
Algiers, Algeria.....	3,425	Morocco, Morocco.....	3,305
Berlin, Prussia.....	3,847	Mourzouk, Fezzan.....	5,525
Berne, Switzerland.....	3,730	Mozambique, Mozambique	7,348
Brussels, Belgium.....	3,515	Ottawa, Canada.....	462
Batavia, Java.....	11,118	Panama, New Granada...	1,825
Bombay, Hindostan.....	8,548	Parana, A. R.....	4,733
Buenos Ayres, A. R.....	5,013	Port au Prince, Hayti....	1,429
Bremen, Prussia.....	3,500	Paris, France.....	3,485
Constantinople, Turkey...	4,880	Pekin, China.....	8,783
Copenhagen, Denmark....	3,895	Quebec, Canada.....	601
Calcutta, Hindostan.....	9,348	Quito, Ecuador.....	2,531
Canton, China.....	9,000	Rio Janeiro, Brazil.....	4,280
Cairo, Egypt.....	5,848	Rome, Italy.....	4,365
Cape Town, Cape Colony..	6,684	St. Petersburg, Russia....	4,296
Cape of Good Hope.....	7,380	Stockholm, Sweden.....	4,055
Caraccus, Venezuela.....	1,058	Shanghai, China.....	8,600
Charlotte Town, P. E. I... 820		Singapore, Malay.....	11,300
Dublin, Ireland.....	3,076	St. John's, Newfoundland.	1,340
Delhi, Hindostan.....	8,368	San Domingo, San D.....	4,300
Edinburgh, Scotland.....	3,275	San Juan, Nicaragua.....	1,740
Frederickton, N. B.....	670	San Salvador, C. A.....	1,650
Gibraltar, Spain.....	3,150	Santiago, Chile.....	4,970
Glasgow, Scotland.....	3,215	Spanish Town, Jamaica...	1,446
Halifax, Nova Scotia.....	780	Sidney, C. B. I.....	975
Hamburg, Germany.....	3,570	Sydney, Australia.....	8,963
Havana, Cuba.....	1,139	St. Paul de Loanda.....	5,578
Honolulu, S. I.....	4,513	Timbuctoo, Soudan.....	3,395
Jerusalem, Palestine.....	5,495	Tripoli, Tripoli.....	4,425
Jamestown, St. Helena...	7,150	Tunis, Tunis.....	4,240
Lima, Peru.....	3,515	Toronto, Canada.....	343
Lisbon, Portugal.....	3,190	Venice, Italy.....	3,835
Liverpool, England.....	3,228	Vienna, Austria.....	4,115
London, England.....	3,315	Valparaiso, Chile.....	4,934
City of Mexico, Mexico...	1,867	Vera Cruz, Mexico.....	1,680
Montevideo, Uruguay....	5,003	Warsaw, Poland.....	4,010
Montreal, Canada.....	471	Yeddo, Japan.....	7,530
Madrid, Spain.....	3,485	Zanzibar, Zanzibar.....	7,078
Moscow, Russia.....	4,446		

THE WORLD'S FAIRS.

WHERE HELD.	Year.	Area Cov- ered. *	Exhib- itors.	Visitors. †	Days Open.	Receipts. ‡
		<i>Acres.</i>				
London.....	1851	21	13,937	6,039,195	141	\$1,780,000
Paris.....	1855	24½	20,839	5,162,330	200	644,100
London.....	1862	23½	28,653	6,211,103	171	1,614,260
Paris.....	1867	37	50,226	8,805,969	217	2,103,675
Vienna.....	1873	40	50,000	6,740,500	186	1,032,385
Philadelphia....	1876	60	30,864	10,164,489	159	3,813,724
Paris.....	1878	60	40,366	16,032,725	194	2,531,650
Sydney.....	1879	26	9,345	1,117,536	210	200,000
Melbourne.....	1880	.....	.....	1,330,279	210	.....
Fisheries Exhi- bition, London	1883	9	3,000	2,703,051	147	585,000
Health Exhi- bition, London..	1884	.....	.....	4,153,390	151	892,545
Inventions Exhi- bition, London	1885	.....	.....	3,760,581	163	750,000
Colonial and In- dian, London..	1886	13	.....	5,550,745	164	1,025,000
Glasgow.....	1888	.....	.....	5,748,379	161	566,330
Paris.....	1889	75½	55,000	28,149,353	185	8,300,000
Chicago....	1893	633	.....	27,539,521	184	14,000,000

* Buildings and covered structures.

† The largest number of visitors in any one day was 400,000 in Paris, and 716,881 in Chicago.

‡ Receipts for admission.

[For Paris Exposition, 1900,
see page 92.]

MOST NORTHERN POINT REACHED BY ARCTIC EXPLORERS.

YEAR.	EXPLORERS.	NO.	LATITUDE.
1607—Hudson		80d.	23m. 00s.
1773—Phipps (Lord Musgrove).....		80d.	48m. 00s.
1806—Scoresby.....		81d.	12m. 42s.
1827—Parry.....		82d.	45m. 30s.
1874—Meyer (on land).....		82d.	09m. 00s.
1875—Markham (Nare's Expedition).		83d.	20m. 26s.
1876—Payer.....		83d.	07m. 00s.
1884—Lockwood (Greely's Party)...		83d.	24m. 00s.
1890—Nansen		86d.	14m. 00s.
1900—Cagni (Duke of Abruzzi)		86d.	33m. 00s.

The distance from the farthest point of polar discovery to the pole itself is 239 miles. But this polar radius, though only 239 miles in extent is covered by ice gorges and precipices of incredible difficulty, and frost is so severe that no instrument of human invention can measure its intensity, and it blisters the skin like extreme heat.

The greatest progress that has ever been made across these wildernesses of storm, of fury and desolation, was at the rate of six miles a day.

ANALYSIS OF VARIOUS ARTICLES OF FOOD.

ARTICLES.	Water.	Fibrim of Gluten.	Fat	Starch, Sugar, & Gum.	Ash.	Starch.	Wood Fibers.	Mineral Matter.	Sugar.	Flour.	Blood and Salts.	Caseine.	Acid.	Albumen.	Gluten & Albumen.	Thide.	Case.
Apple.....	87	3 3/4	...	9	2 1/2	...	11 1/2	5/8	...	...	...	...	...	1/2	...	...	4 1/2
Barley.....	10 1/2	5 1/2	1/2	...	...	60 1/2	11 1/2	1/8	4 1/2	...	...	...	...	...	...	...	...
Beans.....	14	24	2	48	5	...	10	...	...	...	...	...	...	...	...	...	...
Beet root.....	81	8	...	...	...	...	...	...	20 1/2	...	...	...	...	...	...	...	...
Buckwheat flour.....	14 1/2	8 1/2	...	26	1 1/2	50	...	1	...	...	...	...	...	...	...	...	...
Cheese, rich and old.....	36	...	30 1/2	...	4 1/2	...	...	...	...	...	29	...	...	...	...	...	...
Cocoa bean.....	5	17	56	22	6 3/4	...	34	...	...	...	...	...	5	...	...	1/2	...
Coffee.....	12	13	13	15 1/2	...	...	...	...	...	...	...	...	...	...	...	...	...
Cornmeal.....	14	12	8	66	...	...	...	...	...	...	...	...	...	...	...	...	...
Egg.....	74	...	10 1/2	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Haddock and herring.....	...	92	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Milk.....	87	...	3	...	3/4	...	...	...	4 3/4	...	...	4 1/2	...	...	...	...	...
Meat, butcher's.....	...	68	25	...	...	...	...	...	...	...	7	...	...	...	...	...	...
Pea.....	15	24	2	20	...	39	...	...	...	...	...	...	...	...	...	...	...
Potato.....	75	8	...	...	...	...	...	...	...	...	...	...	...	...	17	...	...
Rice.....	14	7 1/2	3/4	1 1/2	1 1/2	73	3 1/2	1 1/4	...	...	...	...	...	...	...	...	...
Rye flour.....	14	25	...	...	1	42 1/2	...	1 1/4	...	17	...	...	...	...	...	...	...
Tea.....	5	25	4	21	...	...	...	...	...	...	...	...	...	...	...	...	...
Wheat.....	14	16	1	67	1	...	...	...	...	...	...	...	...	...	...	...	...
" bran.....	13	18	6	63	...	...	...	...	...	...	...	...	...	...	...	...	...
" flour*.....	16	10	2	72	...	...	...	...	...	...	...	...	...	...	...	...	...
" bread.....	45	6	1	48	...	...	...	...	...	...	...	...	...	...	...	...	...

* Water absorbed by flour varies from 40 to 60 per cent. of the weight of the flour, the best quality absorbing the most. 100 lbs. flour yields 130 lbs. bread.

A LIST OF 365 AMERICAN HISTORICAL EVENTS FROM 1492.

JANUARY.

- 1 New Year's Day.
- 2 Quakers free slaves, 1788.
- 3 Battle of Princeton, 1777.
- 4 National Fast, 1861.
- 5 Richmond burned, 1781.
- 6 Santa Anna president, 1853.
- 7 Millard Fillmore born, 1800.
- 8 Mississippi seceded, 1861.
- 9 New York founded, 1614.
- 10 Battle Middle Creek, Ky., 1862.
- 11 Arkansas Post surrendered, 1863.
- 12 Vicksburg fortified, 1861.
- 13 Gen. Taylor ordered to Mexico, 1846.
- 14 Peace declared, 1783.
- 15 Edward Everett died, 1865.
- 16 Napier appointed envoy to United States, 1857.
- 17 Benjamin Franklin born, 1706.
- 18 Georgia seceded, 1861.
- 19 Battle Mill Spring, Ky., 1862.
- 20 Independence United States recognized, 1783.
- 21 Fremont born, 1813.
- 22 Battle Frenchtown, 1813.
- 23 Battle Encarnacion, Mex., 1847.
- 24 President Johnson's imp. trial, 1868.
- 25 Louisiana seceded, 1861.
- 26 Michigan admitted, 1837.
- 27 Audubon died, 1851.
- 28 William H. Prescott died, 1859.
- 29 Kansas admitted, 1861.
- 30 N. P. Banks born, 1816.
- 31 Str. Metropolis lost, 1878.

FEBRUARY.

- 1 Texas seceded, 1861.
- 2 Peace with Mexico, 1848.
- 3 Horace Greeley born, 1811.
- 4 Confederate Congress met, 1861.
- 5 Hatcher's Run, Va., 1865.
- 6 Fort Henry captured, 1862.
- 7 U. S. Bank suspends, 1841.
- 8 Jeff Davis elected President, 1861.
- 9 Bishop Waugh died, 1858.
- 10 Treaty of Paris, 1763.
- 11 Charleston evacuated, 1865
- 12 A. Lincoln born, 1809.
- 13 Fernando Wood died, 1881.
- 14 St. Valentine's Day.
- 15 Maine blown up in Havana harbor, 1898.
- 16 Fort Donelson surrendered, 1862.
- 17 Columbia, S. C., burned, 1865.
- 18 Jeff Davis inaugurated, 1861.
- 19 First National Thanksgiving, 1795.
- 20 Battle Olistee, Fla., 1864.
- 21 Battle Valverde, N. M., 1861.
- 22 Washington born, 1732.
- 23 Nashville taken, 1862.
- 24 Peacock captured, 1813.
- 25 Battle Trenton, 1776.
- 26 Gen. Sickles acquitted, 1859.
- 27 Longfellow born, 1807.
- 28 Black Warrior seized, 1854.

MARCH.

- 1 Nebraska admitted, 1867.
- 2 Missouri admitted, 1821.
- 3 Florida admitted, 1845.
- 4 Vermont admitted, 1791.
- 5 Boston massacre, 1770.
- 6 Battle Pea Ridge, 1862.
- 7 Bible Society founded, 1804.
- 8 Wesley started for America, 1738.
- 9 Monitor destroys Merrimac, 1862.
- 10 McClellan crossed Potomac, 1862.
- 11 Benjamin West died, 1820.

- 12 Chicago flood, 1849.
- 13 Pocahontas died, 1617.
- 14 Jackson born, 1767.
- 15 Battle Guilford C. H., 1781.
- 16 Expunging Res. ad., 1837.
- 17 St. Patrick's Day.
- 18 Calhoun born, 1782.
- 19 Patent of Conn. issued, 1631.
- 20 Uncle Tom's Cabin pub., 1852.
- 21 Nevada admitted, 1864.
- 22 Stamp Act passed, 1765.
- 23 Battle Winchester, 1862.
- 24 Longfellow died, 1882.
- 25 Port Bill passed, 1774.
- 26 Gov. Winthrop died, 1640.
- 27 Vera Cruz taken, 1847.
- 28 Essex captured, 1814.
- 29 J. J. Astor died, 1848.
- 30 Crimean war ends, 1856.
- 31 Calhoun died, 1850.

APRIL

- 1 Battle Five Forks, 1865.
- 2 Jefferson born, 1743.
- 3 Richmond captured, 1865.
- 4 President Harrison died, 1841.
- 5 Yorktown besieged, 1862.
- 6 Washington elected, 1789.
- 7 Channing born, 1780.
- 8 Louisiana admitted, 1812.
- 9 Lee's surrender, 1865. Lee leaves Havana, 1898.
- 10 Modoc massacre, 1873.
- 11 Mobile evacuated, 1865.
- 12 Henry Clay born, 1777.
- 13 Fall of Sumter, 1862.
- 14 Lincoln shot, 1865.
- 15 First call for troops, 1861.
- 16 Slavery abolished D. C., 1862.
- 17 Benjamin Franklin died, 1790.
- 18 Battle Cerro Gordo, 1847.
- 19 Battle Lexington, 1775.
- 20 Plymouth, N. C., captured, 1864.
- 21 Norfolk Navy Yard captured, 1861.

- 22** Buchanan born, 1791.
- 23** Stephen A. Douglas born, 1831.
- 24** First newspaper published in America, 1764.
- 25** Congress declares war on Spain, 1898.
- 26** Johnston surrendered, 1865.
- 27** U. S. Grant born, 1822.
- 28** Maryland admitted, 1788.
- 29** Bishop Morris born, 1794.
- 30** Washington inaugurated, 1789.

MAY.

- 1** Dewey destroys Spanish fleet, Manila, 1898.
- 2** Battle of Chancellorville, 1863.
- 3** Columbus discovered Jamaica, 1494.
- 4** Yorktown evacuated, 1862.
- 5** Battle of Williamsburg, 1862.
- 6** Tennessee seceded, 1861.
- 7** Arkansas seceded, 1861.
- 8** Battle of Palo Alto, 1846.
- 9** Battle Resaca de la Palma, 1846.
- 10** Jeff Davis captured, 1865.
- 11** Minnesota admitted, 1858.
- 12** Crown Point captured, 1775.
- 13** Jamestown, Va., settled, 1607.
- 14** Battle Jackson, Miss., 1863.
- 15** Battle Resaca, Ga., 1864.
- 16** W. H. Seward born, 1801.
- 17** Great fire, St. Louis, 1849.
- 18** Matamoras captured, 1846.
- 19** Hawthorne died, 1864.
- 20** Lafayette died, 1834.
- 21** North Carolina seceded, 1861.
- 22** Assault on Vicksburg, 1863.
- 23** South Carolina admitted, 1778.
- 24** Brooklyn bridge opened, 1883.
- 25** Philadelphia Convention met, 1748.
- 26** Pequod massacre, 1637.
- 27** Fort Erie evacuated, 1813.
- 28** Noah Webster died, 1843.
- 29** Rhode Island admitted, 1790.
- 30** Congress met in Washington, 1808.
- 31** Battle Seven Pines, 1862.

JUNE.

- 1 Kentucky admitted, 1792.
- 2 Battle Cold Harbor, Va., 1864.
- 3 Battle Philippi, Va., 1861.
- 4 Port Pillow captured, 1862.
- 5 Battle Piedmont, Va., 1864.
- 6 Memphis taken, 1862.
- 7 United States Bank founded, 1791.
- 8 Jamestown, Va., abandoned, 1610.
- 9 Georgia chartered, 1732.
- 10 Battle Big Bethel, 1861.
- 11 Sherman arrives Kenesaw, 1864.
- 12 Bryant died, 1878.
- 13 Fugitive slave bill repealed, 1864.
- 14 Tax on tea ordered, 1767.
- 15 Arkansas admitted, 1836.
- 16 Battle Bunker Hill, 1775.
- 17 Charleston, Mass., burned, 1775.
- 18 War declared Great Britain, 1812.
- 19 Alabama sunk by Kearsarge, 1864.
- 20 United States flag adopted, 1777.
- 21 New Hampshire admitted, 1788.
- 22 Battle Craney Id., 1813.
- 23 Battle Springfield, N. J., 1780.
- 24 Labrador discovered, 1497.
- 25 Gen. Custer killed, 1876.
- 26 Seven days' fight, Virginia, 1862.
- 27 Vera Cruz surrendered, 1847.
- 28 Battle of Charleston, 1776.
- 29 Henry Clay died, 1852.
- 30 Guiteau hanged, 1882. Battle of Caney, 1898.

JULY.

- 1 Battle Gettysburg begun, 1863.
- 2 President Garfield shot, 1881.
- 3 Cervera's fleet destroyed, Santiago, 1898.
- 4 Independence Day.
- 5 British captured Ticonderoga, 1777.
- 6 Battle Carthage, Mo., 1861.
- 7 Mrs. Surratt hanged, 1865.
- 8 Abercrombie defeated, 1758.
- 9 Braddock's defeat, 1755.

- 10 Columbus born, 1447.
- 11 J. Q. Adams born, 1767.
- 12 Hull invades Canada, 1812.
- 13 Draft riots, New York, 1863.
- 14 Second Chicago fire, 1874. Santiago sur'nders, '98.
- 15 Stony Point captured, 1779.
- 16 Battle Point au Play, 1814.
- 17 Fort Mackinaw captured, 1812.
- 18 Assaults on Fort Wagner, 1863.
- 19 Great fire in New York, 1845.
- 20 Confederate Congress met, 1861.
- 21 First Battle Bull Run, 1861.
- 22 McPherson killed, 1864.
- 23 Battle Caloosahatchie, 1839.
- 24 Van Buren died, 1862.
- 25 Battle Lundy's Lane, 1814.
- 26 Louis Philippe died, 1850.
- 27 John Morgan captured, 1863.
- 28 Fighting ends at Atlanta, 1864.
- 29 Confederate soldiers paroled, 1865.
- 30 Chambersburg burned, 1864.
- 31 Battle Montmorenci, 1759.

AUGUST.

- 1 Columbus discovered mainland, 1493.
- 2 Battle Sandusky, 1813.
- 3 Columbus left Spain, 1492.
- 4 Iowa adopted Constitution, 1846.
- 5 Mobile forts attacked, 1864.
- 6 Ram Tennessee captured, 1864.
- 7 Great fire in New York, 1778.
- 8 Battle of Mackinaw, 1814.
- 9 Battle of Cedar Mt., Va., 1862.
- 10 Missouri admitted, 1821.
- 11 Davis Straits discovered, 1585.
- 12 Spanish-American peace protocol signed, 1898.
- 13 Fort Erie bombarded, 1814.
- 14 Oswego taken, 1756.
- 15 Lafayette revisits United States, 1824.
- 16 Hull's surrender, 1812.
- 17 N. E. Courant established, 1721.
- 18 Battle Fishing Creek, 1780.

- 19 Guerriere captured, 1812.
- 20 Battle Contreras, 1847.
- 31 Lawrence, Kas., burned, 1863.
- 22 Yacht America wins, 1851.
- 23 New Mexico annexed, 1846.
- 24 Washington taken, 1814.
- 25 British army in Chesapeake, 1777.
- 26 Stamp Act riot, 1768.
- 27 Battle Long Island, 1776.
- 28 First cable message, 1858.
- 29 Capture of Hatteras, 1861.
- 30 William Penn died, 1718.
- 31 Battle Jonesboro, Ga., 1864.

SEPTEMBER.

- 1 Lopez garroted, 1851.
- 2 Atlanta evacuated, 1864.
- 3 Treaty of Paris, 1783.
- 4 Gen. Morgan killed, 1864.
- 5 Continental Congress met, 1774.
- 6 May Flower sailed, 1620.
- 7 Brazil declared independent, 1822.
- 8 Montreal surrendered, 1760.
- 9 California admitted, 1850.
- 10 Hudson River discovered, 1609.
- 11 Battle Brandywine, 1777.
- 12 Battle Chapultepec, 1847.
- 13 Battle Quebec, 1759.
- 14 Fulton's steamboat starts, 1807.
- 15 Fenimore Cooper born, 1789.
- 16 Battle Harlem Plains, 1776.
- 17 Battle Antietam, 1862.
- 18 Surrender of Quebec, 1759.
- 19 Battle Saratoga, 1777.
- 20 Capture of Lexington, Mo., 1861.
- 21 Andre captured, 1780.
- 22 Battle Fisher's Hill, Va., 1864.
- 23 Serapis captured, 1779.
- 24 Monterey surrendered, 1846.
- 25 Battle Montreal, 1775.
- 26 Philadelphia captured by British, 1777.
- 27 Steamer Artic lost, 1854.

- 98 Fort Harrison, Va., captured, 1864.
- 29 Draft in New York, 1862.
- 30 Peace treaty with France, 1800.

OCTOBER.

- 1 British troops arrived Boston, 1768.
- 2 Andre executed, 1780.
- 3 Blackhawk died, 1838.
- 4 Battle Corinth, 1862.
- 5 Tecumseh killed, 1813.
- 6 Peace proclaimed, 1783.
- 7 E. A. Poe died, 1849.
- 8 Battle Perryville, Ky., 1862.
- 9 Great Chicago fire, 1871.
- 10 B. West born, 1738.
- 11 Prince of Wales arrived in New York, 1860.
- 12 R. E. Lee died, 1870.
- 13 Battle of Queenstown, 1812.
- 14 William Penn born, 1644.
- 15 Chippewa Indians, 1814.
- 16 First newspaper in New York, 1725.
- 17 Burgoyne surrendered, 1777.
- 18 Sloop Frolic captured, 1812.
- 19 Surrender of Cornwallis, 1781.
- 20 Steamer Florida captured, 1864.
- 21 Battle Ball's Bluff, 1861.
- 22 Battle Fort Mercer, 1777.
- 23 Battle St. Regis, 1812.
- 24 Daniel Webster died, 1852.
- 25 Macedonian captured, 1812.
- 26 Fight of Chataqua, 1813.
- 27 Ram Albemarle destroyed, 1864.
- 18 Harvard College founded, 1636.
- 29 Battle White Plains, 1776.
- 30 Old John St. Church died, 1768.
- 31 Nevada admitted, 1864.

NOVEMBER.

- 1 Battle French Creek, 1813.
- 2 Erie Canal finished, 1825.
- 3 Bryant born, 1794.
- 4 Declaration of rights by Congress, 1774.
- 5 Grant's second election, 1872.

- 6 Lincoln elected, 1860.
- 7 Battle of Tippecanoe, 1811.
- 8 Mason and Slidell seized, 1861.
- 9 Mayflower arrived Cape Cod, 1620.
- 10 Dutch seized rule New York, 1674.
- 11 Battle Shryser's Field, 1813.
- 12 Conscription declared unconstitutional, 1863.
- 13 Montreal captured, 1775.
- 14 Sherman marched to sea, 1864.
- 15 Great fire in New York, 1835.
- 16 Fort Washington captured, 1776.
- 17 Jeff Davis threatens reprisal, 1862.
- 18 Battle Fish Dam, S. C., 1780.
- 19 Garfield born, 1831.
- 20 Battle Belle Isle, 1759.
- 21 North Carolina admitted, 1789.
- 22 Bishop Wiley died, 1884.
- 23 Bragg defeated, 1863.
- 24 Battle Lookout Mountain, 1863.
- 25 Evacuation New York, 1783.
- 26 Battle Mission Ridge, 1863.
- 27 Hoosac Tunnel opened, 1873.
- 28 Irving died, 1859.
- 29 Wendell Phillips born, 1811.
- 30 Revolutionary War ends, 1782.

DECEMBER.

- 1 Statue Washington unveiled, 1832.
- 2 John Brown executed, 1859.
- 3 Illinois admitted, 1818.
- 4 Alabama admitted, 1818.
- 5 Van Buren born, 1782.
- 6 Carver landed New England, 1620.
- 7 Delaware admitted, 1787.
- 8 Washington crossing Delaware, 1776.
- 9 Buffalo burned, 1813.
- 10 Mississippi admitted, 1817.
- 11 Pilgrims landed, 1620.
- 12 Pennsylvania admitted, 1787.
- 13 Battle Fredericksburg, Va., 1862.
- 14 Washington died, 1799.
- 15 Hartford convention, 1814.

- 16 Boston Tea Party, 1773.
- 17 General Bolivar died, 1830
- 18 New Jersey admitted, 1787.
- 19 Massacre Narragansetts, 1675.
- 20 South Carolina seceded, 1860.
- 21 Savannah captured, 1864.
- 22 Embargo on American ships, 1807.
- 23 Washington resigned commission, 1783.
- 24 Fort Fisher stormed, 1864.
- 25 Christmas.
- 26 Major Anderson occupied Sumter, 1860.
- 27 Battle Chickasaw Bayou, 1862.
- 28 Iowa admitted, 1846.
- 29 Texas admitted, 1845.
- 30 New Mexico purchased, 1853.
- 31 Monitor founded, 1862.

MILES OF VARIOUS NATIONS.

The English and American mile is.....	1,760 yards.
The Scotch mile is.....	1,984 "
The Irish mile is.....	2,240 "
The German mile is.....	8,106 "
The Dutch and Prussian mile is.....	6,480 "
The Italian mile is.....	1,766 "
The Vienna post mile is.....	8,296 "
The Swiss mile is.....	9,153 "
The Swedish and Danish mile is.....	7,341.5 "
The Arabian mile is.....	2,143 "
The Roman mile is.....	1,628 or 2,025 "
The Werst mile is.....	1,167 or 1,337 "
The Tuscan mile is.....	1,808 "
The Turkish mile is.....	1,826 "
The Flemish mile is.....	6,860 "

Facts About Postage Stamps.

The number of postage stamps used in a year is something enormous. For instance, the ordinary postal revenue for the year ending June 30, 1900, was \$102,354,879. On that date there were 4,280 presidential offices, and 72,408 fourth-class offices. The number of money orders was 32,060,983, for a total amount of \$238,921,010.

THE SILVER QUESTION.

IN all civilized countries either gold or silver has been adopted as the standard of monetary value. The following is a list of the most important countries in the world, divided into three groups, those using (1) a gold standard, (2) a silver standard, (3) a double or variable standard. Of these last it may be said that the term "variable" is preferable to that of "double," inasmuch as the double standard never exists at one and the same time, gold or silver becoming alternately the standard, as the state of the exchanges makes the one or the other the more desirable as the practical medium of exchange.

Gold Standard.	Silver Standard.	Double or Variable Standard.
Argentine. Austria-Hungary. Brazil. Chili. Cuba. British Empire. Denmark. Egypt. German Empire. Japan.	Bolivia. Central America. China. Colombia. Ecuador. Mexico. Peru.	Belgium. France. Greece. Hayti. Italy. Roumania. Spain. Switzerland. United States.

RELATIVE HARDNESS OF WOODS

Taking shell bark hickory as the highest standard of our forest trees, and calling that 100, other trees will compare with it for hardness as follows:

Shell bark hickory.....	100	Yellow oak.....	69
Pignut hickory.....	96	White elm.....	58
White oak.....	84	Hard maple.....	56
White ash.....	77	Red cedar.....	56
Dogwood.....	75	Wild cherry.....	55
Scrub oak.....	73	Yellow pine.....	54
White hazel.....	72	Chestnut.....	52
Apple tree.....	70	Yellow poplar.....	51
Red oak.....	69	Butternut.....	43
White beech.....	65	White birch.....	43
Black walnut.....	65	White pine.....	30
Black birch.....	62		

Timber intended for posts, is rendered almost proof against rot by thorough seasoning, charring and immersion in hot coal tar.

PERIODS OF GESTATION

In the horse and ass are about the same, or 11 months each, camel 12 months, elephant 2 years, lion 5 months, buffalo 12 months, in the human female 9 months, cow 9 months, sheep 5 months, dog 9 weeks, cat 8 weeks, sow 16 weeks, she wolf from 90 to 95 days. The goose sits 30 days, swans 42, hens 21, ducks 30, peahens and turkeys 28, canaries 14, pigeons 14, parrots 40.

SUBTERRANEAN HEAT

The deepest coal mine in England is at Killingworth, near Newcastle, and the mean annual temperature at 400 yards below the surface is 77 degrees, and at 300 yards 70 degrees, while at the surface it is but 48 degrees, being 1 degree of increase for every 15 yards. This explains the origin of hot springs, for at 3,300 yards the heat would be equal to boiling water, taking 20 yards to a degree. The heat of the Bath waters is 116 degrees, hence they would appear to rise 1,320 yards.

Peron relates that at the depth of 2,144 in the sea the thermometer falls to 45 degrees, when it is 86 degrees at the surface.

Swenberg and Fourier calculate the temperature of the celestial spaces at 50 degrees centigrade below freezing.

In Northern Siberia the ground is frozen permanently to the depth of 660 feet, and only thaws to the extent of 3 or 4 feet in summer. Below 660 feet internal heat begins.

AGES OF ANIMALS, ETC.

Elephant 100 years and upward, rhinoceros 20, camel 100, lion 25 to 70, tigers, leopards, jaguars and hyenas (in confinement) about 25 years, beavers 50 years, deer 20, wolf 20, fox 14 to 16, llamas 15, chamois 25, monkeys and baboons 16 to 18, hare 8, squirrel 7, rabbit 7, swine 25, stag under 50, horse 30, ass 30, sheep under 10, cow 20, ox 30, swans, parrots and ravens 200, eagle 100, geese 80, hens and pigeons 10 to 16, hawks 36 to 40, cranes 24, blackbird 10 to 12, peacock 20, pelican 40 to 50, thrush 8 to 10, wren 2 to 3, nightingale 15, blackcap 15, linnet 14 to 23, goldfinch 20 to 24, redbreast 10 to 12, skylark 10 to 30, titlark 5 to 6, chaffinch 20 to 24, starling 10 to 12, carp 70 to 150, pike 30 to 40, salmon 16, codfish 14 to 17, eel 10, crocodile 100, tortoise 100 to 200, whale estimated 1,000, queen bees live 4 years, drones 4 months, working bees 6 months.

THE ALPS

These mountains comprise about 180 peaks, from 4,000 to 15,732 feet high, the latter being the height of Mont Blanc, the highest spot in Europe. The summit is a sharp ridge, like the roof of a house, consisting of nearly vertical granite rocks. The ascent of these awful solitudes is most perilous, owing to the narrow paths, tremendous ravines, icy barriers, precipices, etc. In many places every step has to be cut in the ice, the party being tied to each other by ropes so that if one slips he may be held up by the rest, and silence is enforced, lest the noise of talking should dislodge the avalanches of the Aiguille du Midi. The view from the mountain is inexpressibly grand. On the Alps, the limit of the vine is an elevation of 1,600 feet; below 1,000 feet, figs, oranges and olives are produced. The limit of the oak is 3,800 feet, of the chestnut 2,800 feet, of the pine 6,500 feet, of heaths and furze to 8,700 and 9,700 feet, and perpetual snow exists at an elevation of 8,200 feet.

On the Andes, in latitude 2 degrees, the limit of perpetual snow is 14,760 feet; in Mexico, latitude 19 degrees, the limit is 13,800 feet; on the peak of Teneriffe, 11,454 feet; on Mount Etna, 9,000 feet; on the Caucasus, 9,900 feet; the Pyrenees, 8,400 feet; in Lapland, 3,100 feet; in Iceland, 2,980 feet. The walnut ceases to grow at an elevation of 3,600 feet; the yellow pine at 6,200 feet; the ash at 4,800 feet, and the fir at 6,700 feet. The loftiest inhabited spot on the globe is the Port House of Ancomarca, on the Andes, in Peru, 16,000 feet above the level of the sea. The fourteenth peak of the Himalayas, in Asia, 25,659 feet high, is the loftiest mountain in the world.

ANCIENT AND MODERN ENGINEERING

Babel, now called Birs Nimroud, built at Babylon by Belus, was used as an observatory and as a Temple of the Sun. It was composed of eight square towers, one over the other, in all 670 feet high, and the same dimensions on each side on the ground.

The Coliseum at Rome, built by Vespasian for 100,000 spectators, was in its longest diameter 615-5 feet, and in the shortest 510, embraced $5\frac{1}{2}$ acres, and was 120 feet high.

Eight aqueducts supplied ancient Rome with water, delivering 40 millions of cubic feet daily. That of Claudia was 47 miles long and 100 feet high, so as to furnish the hills. Martia was 41 miles, of which 37 were on 7,000 arches 70 feet high. These vast erections would never have been built had the Romans known that water always rises to its own level.

The Temple of Diana, at Ephesus, was 425 feet long and 225 feet broad, with 127 columns, 60 feet high, to support the roof. It was 220 years in building.

Solomon's Temple, built 1014 B. C., was 60 cubits or 107 feet in length, the breadth 20 cubits or 36 feet, and the height 30 cubits or 54 feet. The porch was 36 feet long and 18 feet wide.

The largest one of the Egyptian pyramids is 543 feet high, 693 feet on the sides, and its base covers 11 acres. The layers of stones are 208 in number. Many stones are over 30 feet long, 4 broad and 3 thick.

The Temple of Ypsambul, in Nubia, is enormously massive and cut out of the solid rock. Belzoni found in it 4 immense figures, 65 feet high, 25 feet over the shoulders, with a face of 7 feet and the ears over 3 feet.

Sesostris erected in the temple in Memphis immense statues of himself and his wife, 50 feet high, and of his children, 28 feet.

In the Temple of the Sun, at Baalbec, are stones more than 50 feet long, 24 feet thick and 16 broad, each embracing 23,000 cubic feet, cut, squared, sculptured and transported from neighboring quarries. Six enormous columns are each 72 feet high, composed of 3 stones 7 feet in diameter. Sesostris is credited with having transported from the mountains of Arabia a rock 32 feet wide and 240 feet long.

The engineering applicances used by the ancients in the movement of these immense masses are but imperfectly understood at the present day.

During modern times, a block of granite weighing 1,217 tons, now used as the pedestal of the equestrian statue of Peter the Great, at St. Petersburg, was transported 4 miles by land over a railway and 13 miles in a vast caisson by water. The railway consisted of two

lines of timber furnished with hard metal grooves; between these grooves were placed spheres of hard brass about 6 inches in diameter. On these spheres the frame with its massive load was easily moved by 60 men, working at capstans with treble purchase blocks.

In 1716 Swedenborg contrived to transport (on rolling machines of his own invention) over valleys and mountains, 2 galleys, 5 large boats and 1 sloop, from Stromstadt to Iderfjol (which divides Sweden from Norway on the south), a distance of 14 miles, by which means Charles XII. was able to carry on his plans, and under cover of the galleys and boats to transport on pontoons his heavy artillery to the very walls of Frederickshall.

EGYPT AND THE NILE

The Nile has a fall of 6 inches of 1,000 miles. The rise of the river commences in June, continuing until the middle of August, attaining an elevation of from 24 to 26 feet, and flowing the valley of Egypt 12 miles wide. In 1829 it rose to 26 cubits, by which 30,000 persons were drowned. It is a terrible climate to live in, owing to the festering heat and detestable exhalations from the mud, etc., left on the retiring of the Nile, which adds about 4 inches to the soil in a century, and encroaches on the sea 16 feet every year. Bricks have been found at the depth of 60 feet, showing the vast antiquity of the country. In productive-ness of soil it is excelled by no other in the world.

Belzoni considered the tract between the first and second cataract of the Nile as the hottest on the globe, owing to there being no rain. The native do not credit the phenomenon of water falling from above. Hence it is that all monuments are so nicely preserved. Buckingham found a building left unfinished about 4,000 years ago, and the chalk marks on the stones were still perfect.

Pompey's Pillar is 92 feet high, and $27\frac{1}{2}$ round at the base.

The French removed a red granite column 95 feet high, weighing 210 tons, from Thebes, and carried it to Paris. The display of architectural ruins at Thebes is one of the most astonishing to be seen anywhere in the world. The ruins and costly buildings in old eastern countries, are so vast in their proportions and so many in number that it would require volumes to describe them.

VARIOUS SIZES OF TYPE

It requires 205 lines of Diamond type to make 12 inches, of Pearl 178, of Ruby 166, of Nonpareil 143, of Minion 128, of Brevier $112\frac{1}{2}$, of Bourgeois $102\frac{1}{2}$, of Long Primer 89, of Small Pica 83, of Pica $71\frac{1}{2}$, of English 64.

WONDERS OF SCIENCE

A grain of gold has been found by Murree to admit of being divided into ninety-five thousand millions of visible parts: that is, by the aid of a microscope magnifying one thousand times. A sovereign is thus capable of division into ten millions of millions of visible particles, being ten thousand times as many such particles as there are men, women and children in all the world.

SPONTANEOUS COMBUSTION—Liebig, in his "Familiar Letters on Chemistry," has proved the unsoundness of spontaneous combustion. Yet Dr. Lindley gives nineteen instances of something akin, or the rapid ignition of the human body by contact with flame as a consequence of the saturation of its tissues by alcohol.

VIBRATIONS OF THE AIR—If a person stand beneath a railway girder-bridge with an open umbrella over his head, when a train is passing, the vibration of the air will be distinctly felt in the hand which grasps the umbrella, because the outspread surface collects and concentrates the waves into the focus of the handle.

THE EARTH'S CENTER—All bodies weigh less the further removed they are from the center of the earth. A block of stone weighing 700 pounds upon the sea-shore, will weigh only 699 pounds if carried up a mountain three miles high. A pendulum oscillates more quickly at the poles than at the equator, because the earth is flatter by twenty-six miles at the poles—that is, the "bob" of the pendulum is that much nearer the earth's center, and therefore heavier, and so swings more quickly.

PHOTOGRAPHING THE INVISIBLE.

Prof. A. W. Wright of Yale University, who is in charge of Sloane Laboratory and professor of experimental physics at that institution, has recently confirmed in the most striking manner the experiments of Prof. Roentgen, of Wurzburg, Germany, in photographing objects behind opaque bodies by the use of cathode rays—in other words, in photographing objects invisible to the eye.

In making the photographs of invisible objects a highly sensitized plate is placed in an ordinary photographic plate holder. Right in front of it is placed the object to be photographed. In the case illustrated it was an ordinary lead pencil, and his purpose was to photograph the lead in the pencil.

Next to the object to be photographed is placed a high vacuum tube, technically known as Crooke's tube, in which there is an almost perfect vacuum. At the upper end of this tube the cathode or negative pole of the battery is attached, the positive pole being attached to the lower end of the tube and both poles being connected with

an induction coil giving out very high potential discharges.

When the object to be photographed has been for a short time before the sensitized plate the latter is removed and developed like any other photo. and prints of the impression on it can be made to any number desired.

The results obtained by Prof Roentgen in his experiments have been most astonishing. A lecture was given in Berlin on the new discovery, and the lecturer, in its course, made several striking photographs. He took a purse, put a key and some coins into it, wrapped up the whole in black paper, and laid it on a photographic plate; in order to show the great penetrating power of the rays he laid on the top of the wrapped up purse a board two fingers in thickness.

He then exposed the whole to the rays electrically produced in the Roentgen tubes. After about fifteen minutes the lecturer took out the plate, developed it and had it thrown by limelight on a white curtain. With the greatest clearness were seen the key and the coins, while even the outlines of the purse were scarcely visible.

Among other photographs shown was one representing the hand of a man who, years ago, ran into it a piece of glass, which could not be extracted, and always penetrated deeper. The photograph of the skeleton of the hand produced by Prof. Roentgen's method showed this bit of glass quite distinctly.

Very interesting also was the reproduction of a photograph of a large metal plate. It appeared that the plate had been broken in different places, then welded together, and so smoothed over that one saw nothing of the joints. The cathode rays brought the fracture to light quite distinctly. Would not these cathode rays be useful in looking for flaws in our armor plates?

The cathode rays were put to practical use not long ago in a European hospital, and the results obtained demonstrated that they may become most valuable aids in modern surgery. There were two patients on whom operations were to be performed. The photographic pictures taken showed with the greatest clearness and precision the injuries caused by a revolver shot in the left hand of a man, and the position of the small projectile. In the other case, that of a girl, the position and nature of a malformation in the left foot were ascertained. The experiments were regarded as affording a means of determining the exact spot where an operation may be necessary.

Prof. Roentgen is of Dutch birth, and his full name is Wilhelm Conrad Roentgen.

Pile Driving on Sandy Soils.—The greatest force will not effect a penetration exceeding fifteen feet.

Total Number of Pupils and Students of All Grades Receiving Education in the United States in 1898-99.

*(Compiled from the Report of the United States Bureau
of Education.)*

Pupils receiving elementary instruction (primary and grammar grades), public.. ..	14,666,488
Pupils receiving elementary instruction (primary and grammar grades), private.....	1,193,822
Pupils receiving secondary instruction (high school grade), public.. ..	488,549
Pupils receiving secondary instruction (in preparatory schools, seminaries), private,	166,679
Students receiving higher education:	
Universities and colleges.....	103,251
Professional schools.....	55,134
Normal schools.....	68,380
Total number receiving education.....	16,738,363

FOUNDING OF NOTED COLLEGES.

The University of Oxford has the reputation of having been founded by King Alfred in 872; but it is not confirmed by any documentary evidence.

The University of Paris was founded by King Philip II. about 1200.

The first college of the University of Cambridge was founded by Hugo, Bishop of Ely, in 1257.

The first university in the German Empire was at Prague, Bohemia, 1348.

Trinity College, Dublin, was incorporated by royal charter in 1591.

The University of Edinburgh was founded in 1582 by a charter granted by King James VI. of Scotland.

Harvard University had its beginning at Newtown, afterward Cambridge, Mass., in 1636.

Yale University had its beginning at Saybrook, Ct., in 1700, and was removed to New Haven in 1716.

William and Mary College; first steps taken toward establishing it in 1617, erected at Williamsburg, Va., and charter granted in 1693.

The first common schools established by legislation in America were in Massachusetts, 1645; but the first town school was opened at Hartford, Ct., prior to 1642.

Grand Army of the Republic.

First formed in Decatur, Ill., April 6, 1866, at suggestion of Dr. B. F. Stephenson. The membership, June 30, 1900, 276,662, divided into 6,045 Posts.

OUR CENTURY OF GROWTH.

Now that the field work for the twelfth census is practically finished, at least so far as the count of the population is concerned, there is some opportunity to make a comparison of the year 1800 with the last year of the century—the 19th—and to show the enormous strides, not only in the number of our people, but also in the industrial and material situation.

It also affords to the speculative mind an opportunity to peer into the future, and prophesy, perhaps, with that delightful uncertainty which characterizes all prophecy, as to what is in store for us in the year 2000.

We were fairly launched as a nation in 1800, with a trifle over 5,000,000 people scattered throughout the states and western territories. Most of the inhabitants engaged in pastoral pursuits. There were no cities of importance, and comparatively few of the leading statesmen had any idea of the tremendous growth that would come to us in the century just expired. It is hardly possible that the eminent statesman and democratic leader, Jefferson, who laid down such wise rules for the government of the country, could have had the slightest idea what would be the size or government of a great city like Chicago or New York in the year A. D. 1901. Some of the wise things attributed to him do not seem to be adapted to the present conditions.

The count, which began June last, shows that we have, including Alaska and the Hawaiian Islands, something more than 76,000,000 people. All this in a hundred years! The percentage of growth has been much larger in America than in any important nation that pretends to take a regular census. This is accounted for in many ways, practically by the invitation to all the countries of Europe to send their people here, that homes would be granted and equal opportunities afforded them. Thus immigration has largely accounted for a percentage of our increase.

The movement toward the west has been constant. While all of the agricultural lands of the United States are not taken up, yet a considerable portion of them are, and the tide must soon turn back from the Pacific coast, checked on the western side of the country by the ocean.

It is not likely that the percentage of growth will be as great in the ten decades following as it has been in the past. As a matter of fact it is well known that the increase in the number of people in congested countries is very much less than in newer regions. For example, in Germany, one of the strongest of the great nations of the earth, the increase is something like 11 per cent. each decade; in England about the same, and in France not to exceed 2 per cent., so that it is very difficult to make a

hard and fast rule of increase so far as population is concerned.

I think it is safe to say that the per cent. of growth in America will diminish during the next hundred years. If, however, a rate of 18 per cent. increase is continued, we may look for something like 490,000,000 people in the year 2000.

Professor Pritchett, formerly superintendent of the geodetic survey, estimates that the year 2000 will find Uncle Sam's children numbering about 330,000,000. It is possible that the latter figure is more nearly correct. There are so many elements that enter into the situation that it is not possible to prophesy the population of 2000 with any degree of accuracy.

The great cities of New York and Chicago will undoubtedly continue to increase with great rapidity. New York is likely to have 30,000,000 people at the end of this century, and Chicago in proportion.

The indications point to a remarkable expansion in our commerce, owing to the increase of trade with the Orient, and we may fairly indulge in the hope and belief that the western side of the continent will enhance in population and material growth in a proportionately larger way than heretofore.

Naturally enough there should be great shipbuilding and vast manufacturing enterprises growing out of the trade with China and the Philippine Islands.

I think one is justified in the belief that a great city, perhaps the equivalent of Chicago, will find a resting place on the sea on the western side of the continent in response to the commercialism that is now ahead of us.

While we have new problems of governmental policy confronting us, I am one of those who believe that we shall solve them as we go along, and that our country will continue to offer the best opportunities in life for the greatest number of people, and that a century hence we shall still be the greatest republic of the world's history, and continue in our material and intellectual growth as foretold by the fathers.

W. R. MERRIAM,

Director of the Census.

How Looking Glasses Are Made.

After the glass has been carefully polished on both sides it is laid on a firm table (usually of stone), with up-turned edges, and one or more sheets of tin-foil are laid upon the plate. Quick-silver is then spread over it, and at once forms an amalgam with the tin, making a reflecting surface.

The Mayflower's Passengers.

A true list of the male passengers who landed at Plymouth in the Mayflower.

Mr. Isaac Allerton,	Richard Gardiner,
John Alden,	John Howland,
John Allerton,	Mr. Stephen Hopkins,
Mr. William Bradford,	Edward Leister,
Mr. William Brewster,	Mr. Christopher Martin,
John Billington,	Mr. William Mullins,
Peter Brown,	Edmund Margeson,
Richard Britterage,	Degony Priest,
Mr. John Carver,	Thomas Rogers,
Francis Cook,	John Rigdale,
James Chilton.	Captain Miles Standish,
John Crackston,	George Soule,
Richard Clarke,	Edward Tilly,
Edward Dotey,	John Tilly,
Francis Eaton,	Thomas Tinker,
Thomas English,	John Turner,
Mr. Samuel Fuller.	Mr. Edward Winslow,
Edward Fuller,	Mr. William White,
Moses Fletcher,	Mr. Richard Warren,
John Goodman,	Thomas Williams,

Gilbert Winslow.

AND SERVANTS AS FOLLOWS;

Carter,	Langemore,	Sampson,
Coper,	Latham,	Story,
Ely,	Minter,	Thompson,
Holbeck,	More,	Trevore,
Hooke,	Prower,	Wilder.

The Eleven Great Wonders in America.

Croton Aqueduct, in New York City.

City Park, Philadelphia, Pennsylvania. The largest park in the world.

Lake Superior. The largest lake in the world.

Mammoth Cave, in Kentucky.

Niagara Falls. A sheet of water three-quarters of a mile wide, with a fall of 175 feet.

Natural Bridge, over Cedar Creek, in Virginia.

New State Capitol, at Albany, N. Y.

New York and Brooklyn Bridge.

The Central Park, in New York City.

Washington Monument, Washington, D. C., 555 feet high.

Yosemite Valley, California; 57 miles from Coulterville. A valley from 8 to 10 miles long, and about one mile wide. Has very steep slopes about 3,500 feet high; has a perpendicular precipice 3,089 feet high; a rock almost perpendicular, 3,270 feet high; and waterfalls from 700 to 1,000.

FACTS ABOUT THE HUMAN BODY.

The weight of the male infant at birth is 7 lbs.avoirdupois; that of the female is not quite $6\frac{1}{2}$ lbs. The maximum weight ($140\frac{1}{2}$ lbs.) of the male is attained at the age of 40; that of the female (nearly 124 lbs.) is not attained until 50; from which ages they decline afterwards; the male to $127\frac{1}{2}$ lbs., the female to 100 lbs., nearly a stone. The full-grown adult is 20 times as heavy as a new-born infant. In the first year he triples his weight, afterwards the growth proceeds in geometrical progression, so that if 50 infants in their first year weigh 1,000 lbs., they will in the second weigh 1,210 lbs.; in the third 1,331; in the fourth 1,464 lbs.; the term remaining very constant up to the ages of 11-12 in females, and 12-13 in males, where it must be nearly doubled; afterwards it may be continued, and will be found nearly correct up to the age of 18 or 19, when the growth proceeds very slowly. At an equality of age the male is generally heavier than the female. Towards the age of 12 years only an individual of each sex has the same weight. The male attains the maximum weight at about the age of 40, and he begins to lose it very sensibly towards 60. At 80 he loses about 13.2328 lbs., and the stature is diminished 2.756 inches. Females attain their maximum weight at about 50. The mean weight of a mature man is 140 lbs., and of an average woman 94 lbs. In old age they lose about 12 or 14 lbs. Men weigh most at 40, women at 50, and begin to lose weight at 60. The mean weight of both sexes in old age is that which they had at 19.

When the male and female have assumed their complete development they weigh almost exactly 20 times as much as at birth, while the stature is about $3\frac{1}{2}$ times greater.

Children lose weight during the first three days after birth; at the age of a week they sensibly increase; after one year they triple their weight; then

they require six years to double their weight, and 13 to quadruple it.

It has been computed that nearly two years' sickness is experienced by every person before he is 70 years old, and therefore that 10 days per annum is the average sickness of human life. Till 40 it is but half, and after 50 it rapidly increases. The mixed and fanciful diet of man is considered the cause of numerous diseases from which animals are exempt. Many diseases have abated with changes of diet, and others are virulent in particular countries, arising from peculiarities.

Human Longevity.—Of 100,000 male and female children, in the first month they are reduced to 90,396, or nearly a tenth. In the second, to 87,936. In the third, to 86,175. In the fourth, to 84,720. In the fifth, to 83,571. In the sixth, to 82,526, and by the end of the first year to 77,528, the deaths being 2 to 9. The next four years reduces the 77,528 to 62,448, indicating 37,352 deaths before the completion of the fifth year.

At 25 years the 100,000 are half, or 49,995; at 52, one-third. At 58½ a fourth, or 25,000; at 67, a fifth, at 76, a tenth; at 81, a twentieth, or 5,000; and ten attain 100. Children die in large proportions because their disease cannot be explained, and because the organs are not habituated to the functions of life. The mean of life varies in different countries from 40 to 45. A generation from father to son is about 30 years; of men in general 5-6ths die before 70, and 15-16ths before 80. After 80 it is rather endurance than enjoyment. The nerves are blunted, the senses fail, the muscles are rigid, the softer tubes become hard, the memory fails, the brain ossifies, the affections are buried, and hope ceases. The 16th die at 80; except a 133d, at 90. The remainder die from inability to live, at or before 100.

About the age of 36 the lean man usually becomes fatter and the fat man leaner. Again, between the years 43 and 50 his appetite fails, his complexion fades, and his tongue is apt to be furred on the least exertion of body or mind. At this period his muscles become flabby, his joints weak; his spirits droop, and his sleep is imperfect and unrefreshing. After suffering under these complaints a year, or perhaps two, he starts afresh with renewed vigor, and goes on to 61 or 62, when a similar change takes place, but with aggravated symp-

toms. When these grand periods have been successively passed, the gravity of incumbent years is more strongly marked, and he begins to boast of his age.

In Russia, much more than in any other country, instances of longevity are numerous, if true. In the report of the Holy Synod, in 1827, during the year 1825, and only among the Greek religion, 848 men had reached upwards of 100 years of age; 32 had passed their 120th year; 4 from 130 to 135. Out of 606,818 men who died in 1826, 2,765 were above 90; 1,432 above 95; and 848 above 100 years of age. Among this last number 88 were above 115; 24 more than 120; 7 above 125; and one 130. Riley asserts that Arabs in the Desert live 200 years.

On the average, men have their first-born at 30 and women at 28. The greatest number of deliveries take place between 25 and 35. The greatest number of deliveries take place in winter months, and in February, and the smallest in July, *i. e.* to February, as 4 to 5 in towns and 3 to 4 in the country. The night births are to the day as 5 to 4.

Human Strength.—In Schulze's experiments on human strength, he found that men of five feet, weighing 126 lbs., could lift vertically 156 lbs. 8 inches; 217 lbs. 1.2 inches. Others, 6.1 feet, weighing 183 lbs., 156 lbs. 13 inches, and 217 lbs. 6 inches; others 6 feet 3 inches, weighing 158 lbs., 156 lbs. 16 inches, and 217 lbs. 9 inches. By a great variety of experiments he determined the mean human strength at 30 lbs., with a velocity of 2.5 feet per second; or it is equal to the raising half a hogshead 10 feet in a minute.

A good authority reckoned 1 horse equal to 5 men. Porters carry from 150 to 250 pounds. A man draws horizontally 70 to 80 lbs., and thrusts at the height of his chest 28 or 30 lbs. In hot climates men cannot perform half the continued labor. A man's mean labor is sufficient to raise 10 lbs. 10 feet in a second, for 10 hours per day, or 100 lbs. 1 foot in a second, or 36,000 feet in 10 hours; that is, 100 pounds per day would be 3,600,000 feet in a day, which he calls a dynamic unit. The force of a man in turning a winch is taken at 116 lbs.; or as much as would raise 256 lbs. 3,281 feet in a day: his force in pumping is as 190, or equal to 410 lbs. in 3,281 feet: in ringing, 259, or 572 lbs. in 3,281 feet; and in rowing 273, or 608 lbs. in 3,281 feet. In working a pump, a winch, a bell, and rowing, the effects are as 100, 167, 227 and 248. A man with an augur exerts a force of 100 lbs., with a screw-driver of 84 lbs., with a windlass 60 lbs., a hand-plane 50 lbs., a hand-saw 36 lbs.



Steamer "Savannah," the First that Crossed the Atlantic.

The Times (of London, England), in the issue of **May 18, 1819**, thus announced the expected event:

"GREAT EXPERIMENT.—A new steam-vessel of **300 tons** has been built at New York for the express purpose of carrying passengers across the Atlantic. She is to come to Liverpool direct."

This steamer, named the Savannah, the first that crossed the Atlantic, was built at New York by Francis Ficket. Her engines were made by Stephen Vail, of Morristown. She was launched on the 22d of August, 1818. She could carry only seventy-five tons of coal and twenty-five cords of wood. Commanded by Captain Moses Rogers, of New London, Conn., the Savannah sailed from Savannah, Ga., on the 25th of May, 1819, bound for St. Petersburg via Liverpool. She reached the latter port on the 20th of June, having used steam eighteen days out of the twenty-six

FASTEST RECORDS OF OCEAN STEAMERS.

<i>Route.</i>	<i>Steamer.</i>	<i>Line.</i>	<i>Date.</i>	<i>D.</i>	<i>H.</i>	<i>M.</i>
Queenstown to New York....	Lucania.....	Cunard.....	Oct. 21-26, 1894.....	5	7	23
New York to Queenstown.....	Lucania.....	Cunard.....	Sept. 8-14, 1894.....	5	8	38
New York to New York.....	Deutschland.....	Hamburg-Am.....	Aug. 26-Sept. 1, 1900	5	12	29
Southampton to New York....	Kaiser Wilhelm d. Grosse.	No. Germ. Lloyd..	Mar. 30-Apr. 5, 1898	5	20	8
New York to Southampton.	Kaiser Wilhelm d. Grosse.	No. Germ. Lloyd..	Nov. 23-29, 1897....	5	17	17
New York to New York.....	La Touraine.....	French.....	July 16-23, 1892.....	6	14	26
Havre to New York.....	La Touraine.....	French.....	Oct. 29-Nov. 5, 1892	6	20	6
New York to Havre.....	Kaiser Wilhelm d. Grosse.	No. Germ. Lloyd..	Jan. 4-10, 1900.....	5	16	38
New York to Cherbourg.....	Deutschland.....	Hamburg-Am.....	Sept. 5-10, 1900.....	5	7	38
New York to Plymouth.....	Deutschland.....	Hamburg-Am.....	July 7-12, 1900.....	5	15	26
Plymouth to New York.....	Deutschland.....	Hamburg-Am.....	Sept. 5-10, 1900.....	5	15	26

Approximate Distances: — Sandy Hook (Lightship), New York, to Queenstown (Roche's Point), 2,800 miles; to Plymouth (Eddystone), 2,962 miles; to Southampton (The Needles), 3,100 miles; to Havre, 3,170 miles; to Cherbourg (The Mole), 3,184 knots. The fastest day's run was made by the Deutschland, of the Hamburg-American line, August, 1900—584 knots, or 23.02 knots per hour.

THE RECORD-BREAKERS IN THIRTY-FIVE YEARS.

The following is the succession of steamships which have broken the record since 1866, with their running time. The route in all cases was that between New York and Queenstown, east or west.

<i>Date.</i>	<i>Steamer.</i>	<i>D.</i>	<i>H.</i>	<i>-M.</i>	<i>Date.</i>	<i>Steamer.</i>	<i>D.</i>	<i>H.</i>	<i>M.</i>
1856.....	Persia.....	9	1	45	1885.....	Etruria.....	6	5	31
1866.....	Scotia.....	8	2	48	1887.....	Umbria.....	6	4	42
1869.....	City of Brussels.....	7	22	3	1888.....	Etruria.....	6	1	55
1873.....	Baltic.....	7	20	9	1889.....	City of Paris.....	5	19	18
1875.....	City of Berlin.....	7	15	48	1891.....	Majestic.....	5	18	8
1876.....	Germanic.....	7	11	37	1891.....	Teutonic.....	5	16	31
1877.....	Britannia.....	7	10	53	1891.....	City of Paris.....	5	16	58
1880.....	Arizona.....	7	7	23	1892.....	City of Paris.....	5	15	24
1882.....	Alaska.....	6	18	37	1893.....	Campania.....	5	12	7
1884.....	Oregon.....	6	11	9	1894.....	Lucania.....	5	7	23
1884.....	America.....	6	10	0					

RESIDENTS AND VICE-PRESIDENTS OF THE UNITED STATES.

	PRESI- DENTS.	VICE- PRESI- DENTS.		PRESI- DENTS.	VICE- PRESI- DENTS.
Virginia	5	2	New Hampshire.....	1	0
New York.....	5	9	Illinois.....	1	1
Tennessee.....	3	1	District of Columbia.	1	0
Ohio	4	0	Kentucky.....	0	2
Massachusetts	2	3	South Carolina.....	0	1
Indiana	1	2	Alabama.....	0	1
Pennsylvania.....	1	1	Maine.....	0	1
Louisiana	1	0	New Jersey	0	1
				25	25

In this list Vice-Presidents who became Presidents through the death of the Presidents elected with them, are counted once as Vice-President and once as President. They are John Tyler [succeeded W. H. Harrison], Millard Fillmore [succeeded Zachary Taylor], Andrew Johnson [succeeded Abraham Lincoln], Chester A. Arthur [succeeded James A. Garfield].

Our two youngest Presidents, when inaugurated, were Grant (47 years old) and Cleveland (48). The two oldest, W. H. Harrison (68) and Buchanan (66). The average age is about 55½ years.

HOW LIGHT COINS ARE DETECTED BY ELECTRICITY.

There is not a little spice of humor in the way in which both sharpers and those whose business it is to circumvent them have recourse to electrical methods for the attaining of their ends. A large consignment in gold eagles was sent to a New York bank from California which, on examination, was found to contain twenty lightweight coins bearing the date of 1891. These were apparently new and bright, but they were rejected on being passed into the electric light-coin detector. On being examined with a lens their surfaces were found to be covered with infinitesimal pores.

About \$1 worth of gold has been extracted from each eagle by electrolysis, which is a process now in high favor among professional coin "sweaters," of whom the American Chinaman has the reputation of being by far the most adroit and diligent. In the coin detector the coins are pushed in succession from the balance pan on to a knife edge, and according as this knife edge is at the right-hand limit of its range or the left-hand limit the coin, when pushed on it, tilts off to the "light" channel or the "full-weight" channel, as the case may be.

The right or left position of this shifting knife edge is determined by an electric contact made by the balance beam, and thus an electro-magnet is brought into action. The coins run through the machine at the rate of about sixty per minute by the turning of a handle.

HOW THE PRESIDENTS DIED.

GEORGE WASHINGTON—His death was the result of a severe cold, contracted while riding around his farm in a rain and sleet storm on December 10, 1799. The cold increased, and was followed by a chill, which brought on acute laryngitis. His death occurred on December 14, 1799. He was 68 years of age.

JOHN ADAMS—He died from old age, having reached his 91st milestone. Though active mentally, he was nearly blind and unable to hold a pen steadily enough to write. He passed away without a pain on July 4, 1826.

THOMAS JEFFERSON—He died at the age of 83, a few hours before Adams, on July 4, 1826. His disease was chronic diarrhea, superinduced by old age, and, his physician said, the too free use of the waters of the White Sulphur Springs.

JAMES MADISON—He, too, died of old age, and, peacefully, on June 28, 1836. His faculties were undimmed to the last. He was 85.

JAMES MONROE—At the time of his death, which occurred in the 73d year of his age, on July 4, 1831, assigned to enfeebled health.

JOHN QUINCY ADAMS—He was stricken with paralysis on February 21, 1848, while addressing the Speaker of the House of Representatives, being at the time a Member of Congress. He died in the rotunda of the Capitol. He was 81 years of age.

ANDREW JACKSON—He died on June 8, 1845, 78 years old. He suffered from consumption, and finally dropsy, which made its appearance about six months before his death.

MARTIN VAN BUREN—He died on July 24, 1862, from a violent attack of asthma, followed by catarrhal affections of the throat and lungs. He was 80 years of age.

WILLIAM HENRY HARRISON—The cause of his death was pleurisy, the result of a cold which he caught on the day of his inauguration. This was accompanied with severe diarrhea, which would not yield to medical treatment. His death occurred on April 4, 1841, a month after his inauguration. He was 68 years of age.

JOHN TYLER—He died on January 17, 1862, at the age of 72. I have been unable to ascertain the cause of his death.

JAMES K. POLK—In the spring of 1849 he was stricken with a slight attack of cholera while on a boat going up the Mississippi River. Though temporarily relieved, he had a relapse on his return home and died on June 15, 1849, aged 54 years.

ZACHARY TAYLOR—He was the second President to die in office. He is said to have partaken immoderately of ice-water and iced milk, and then later of a large quantity of cherries. The result was an attack of cholera morbus. Another authority attributes his death to a severe cold. He was 66 years old.

MILLARD FILMORE—He died from a stroke of paralysis on March 8, 1874, in his 74th year.

FRANKLIN PIERCE—His death was due to abdominal dropsy, and occurred on October 8, 1869, in the 65th year of his life.

JAMES BUCHANAN—His death occurred on June 1, 1868, and was caused by rheumatic gout. He was 77 years of age.

ABRAHAM LINCOLN—He was shot by J. Wilkes Booth at Ford's Theater, Washington, D. C., on April 14, 1865, and died the following day, aged 56.

ANDREW JOHNSON—He died from a stroke of paralysis, July 31, 1875, aged 67.

The deaths of Garfield (1881), Grant (1885), Arthur (1886), and McKinley (1901), are recent enough to be remembered by all.

Foreign Trade of the United States, Value of Imports and Exports of Merchandise, 1874-1900.

Year Ending June 30.	Exports.		Total Exports.	Imports.	Total Exports and Imports.	Excess of Exports.	Excess of Imports.
	Domestic.	Foreign.					
1874....	\$569,433,421	\$16,849,619	\$586,283,040	\$567,406,342	\$1,153,689,382	\$18,875,698	\$19,562,725
1875....	499,284,100	14,158,611	513,442,711	533,005,436	1,046,448,147	79,643,481	....
1876....	525,582,247	14,802,424	540,384,671	460,741,190	1,001,125,861	151,152,094	....
1877....	589,670,224	12,804,996	602,475,220	451,323,126	1,053,798,346	257,814,234	....
1878....	680,709,268	14,156,498	694,865,766	437,051,532	1,131,917,298	264,661,666	....
1879....	698,340,790	12,098,651	710,439,441	445,777,775	1,156,217,216	167,683,912	....
1880....	823,946,353	11,692,305	835,638,658	667,954,746	1,503,593,404	259,712,718	....
1881....	883,925,947	18,451,399	902,377,346	642,664,628	1,545,041,974	259,712,718	....
1882....	733,239,732	17,302,525	750,542,257	724,639,574	1,475,181,831	25,902,683	....
1883....	804,223,632	19,615,770	823,839,402	723,180,914	1,547,020,316	100,658,488	....
1884....	724,964,852	15,548,757	740,513,609	667,697,693	1,408,211,302	72,815,916	....
1885....	726,682,946	15,506,809	742,189,755	577,527,329	1,319,717,084	164,662,426	....
1886....	665,964,529	13,560,301	679,524,830	635,436,136	1,314,960,966	44,088,694	....
1887....	703,022,923	13,160,288	716,183,211	692,319,768	1,408,502,979	23,863,443	....
1888....	683,862,104	12,092,403	695,954,507	723,957,114	1,419,911,621	....	28,002,607
1889....	730,282,609	12,118,766	742,401,375	745,131,652	1,487,533,027	....	2,730,277
1890....	845,293,828	12,534,856	857,828,684	789,310,409	1,647,139,093	68,518,275	....
1891....	872,270,283	12,210,527	884,480,810	844,916,196	1,729,397,006	39,564,614	....
1892....	1,015,732,011	14,546,137	1,030,278,148	827,402,462	1,857,680,610	202,875,686	....
1893....	831,030,785	16,634,409	847,665,194	866,400,922	1,714,066,116	....	18,735,728
1894....	869,204,937	22,935,635	892,140,572	654,994,622	1,547,135,194	237,145,950	....
1895....	793,392,599	14,145,566	807,538,165	731,969,965	1,539,508,130	75,568,200	....
1896....	863,200,487	19,406,451	882,606,938	779,724,674	1,662,331,612	102,882,264	....
1897....	1,032,007,603	18,985,953	1,050,993,556	764,730,412	1,815,723,968	286,263,144	....
1898....	1,210,291,913	21,190,417	1,231,482,330	616,050,654	1,847,532,984	615,431,676	....
1899....	1,203,931,222	23,092,080	1,227,023,302	697,148,489	1,924,171,791	529,874,813	....
1900....	1,370,763,751	23,719,511	1,394,483,262	849,941,184	2,244,424,446	544,541,898	....

The Imports and Exports of Specie are not included in above table.

THE ARMIES OF EUROPE (1900).

CLASSES.	Ger- many.	France.	Italy.	Austria- Hungary.	Russia.	Great Britain.	Turkey.
<i>Grand War Total:</i>							
Officers	66,013	60,552	47,675	49,924	67,896	} +612,600	18,200
Non-com. Officers and Men.....	5,534,199	4,941,954	1,938,315	1,713,695	5,406,004		1,216,000
Horses.....	195,288	195,908	75,900	82,088	315,100		95,000
Guns.....	4,864	5,480	1,948	2,872	7,188	1,352	696
<i>Peace Establishment:</i>							
Infantry.....	482,512	392,516	133,642	178,950	612,150	168,546	146,000
Cavalry.....	70,800	68,922	24,600	33,723	118,940	32,000	30,000
Artillery.....	96,242	87,512	38,256	37,840	118,256	45,000	19,500
Engineers and Train.....	42,316	30,920	16,008	15,109	34,800	8,945	16,000
Horses.....	132,940	123,988	62,100	69,800	190,620	56,500	30,000
Guns.....	2,840	3,188	1,284	1,672	2,712	840	696
<i>Total Peace Establishment:</i>							
Men	691,870	579,870	211,906	265,608	883,146	254,491	211,500
Horses.....	132,940	123,988	62,100	69,800	190,620	56,500	30,000
Guns.....	2,840	3,188	1,284	1,672	2,712	840	696

This table does not include fortress guns. *Includes regular forces in India and the colonies. †Includes volunteers and militia reserve.

CLASSES.	Spain.	Bel- gium.	Nether- lands.	Den- mark.	Greece.	Switzer- land.	Sweden and Norway	Danubian States.		Rou- mania.
								Bul- garia.	Servia.	
Infantry.....	46,520	34,600	48,000	22,700	10,400	118,000	22,000	24,000	51,600	31,800
Cavalry.....	4,000	6,400	4,720	2,650	1,650	2,750	3,260	2,740	6,900	2,400
Artillery.....	10,600	8,820	10,600	9,512	2,800	9,160	9,400	4,800	3,000	2,000
Engineers and Train.....	3,470	2,412	1,870	1,420	2,420	5,800	3,400	1,960	2,150	1,940
<i>Total Active Army.....</i>	<i>64,590</i>	<i>52,232</i>	<i>65,190</i>	<i>36,282</i>	<i>17,300</i>	<i>135,610</i>	<i>38,060</i>	<i>33,400</i>	<i>63,650</i>	<i>38,140</i>

ARMIES OF MEXICO, SOUTH AMERICA AND ASIA.

CLASSES.	Japan.	China.	Mexico.	Brazil.	Chile.	Argent. Rep.	India.*	Vene- zuela.
Infantry.....	68,640		14,200	16,700	14,200	13,000	137,200	5,300
Cavalry.....	7,600		5,161	2,800	3,000	3,200	42,000	1,690
Artillery.....	6,720	100,000	1,680	4,350	3,200	2,600	23,416	800
Engineers and train.....	4,914		940	1,178	1,115	950	11,600	500
Total peace strength.....	87,874	100,000	21,981	25,028	21,515	19,750	214,216	8,290
First reserves.....	76,400	500,000	28,240	25,632	28,800	22,700	.....	.....
Second reserves.....	238,000	....	131,000	51,478	48,000	46,000	200,000	150,000
Total war strength.....	402,274	600,000	181,221	102,128	119,830	88,450	414,216	158,290

* Including native and white troops.

WOUNDS MADE BY FIRE ARMS.

The U. S. Surgeon-General's office has compiled some very interesting figures the past two years regarding the wounds made by modern rifles. From these it appears that the wounds made by the Mauser rifle are far less deadly than those made by the larger sized bullet used in the Civil War. This less deadly character of the injuries inflicted is manifested by excluding the killed and regarding only the wounded. During the past two years there were 4,333 men wounded in battle who came under the surgeon's care, and only 259 of them died. This was 6 per cent. During the Civil War 14.3 per cent. of the wounded died. Even taking into account the progress made in modern surgical science, there is still a large balance in favor of the smaller bullet. And this holds good whatever the nature of the wound. The shock of the smaller-caliber bullet is so much less than that of the larger lead bullet that it has generally been supposed not to have a good stopping power. The shock is much less, but it still has sufficient power to arrest a man when he is hit. During the Santiago campaign, all reports go to show, whenever the men were hit they fell back at once. This is so of all civilized troops, and therefore it may be said that the modern bullet has all the power necessary for war purposes.

THE ARMY LAW OF 1901.

Officers and Men in the Regular Service.

The fight in Congress, lasting four years, has resulted in the passage of a law reorganizing the regular army, and putting the United States in line with the rest of the world in the matter of the organization of the military arm of the Government.

In 1899, Congress directed the three-battalion organization for infantry. Thus, a regiment consists of 12 companies, divided into 3 battalions of 4 companies each, with 3 majors per regiment. But the act made the organization temporary, by requiring the army, on the first day of July, 1901, to be reduced to about 27,000.

The necessity for legislation by the 56th Congress was imperative. There were more than 60,000 soldiers in the Philippines alone. 35,000 of these had to be mustered out before the first of July, 1901. There were over 400 posts in the Philippines held by troops, and to remove them before others had taken their places would have been fraught with grave consequences, as the natives would have construed such a move as evidence of weakness.

The new law gives us 1 lieutenant-general, 6 majors-general; 15 brigadiers-general; a corps of artillery numbering 18,920 enlisted men; 15 regiments of cavalry and 30 regiments of infantry. In addition to this we have an adjutant and inspector general's departments, where no permanent appointments shall be made, and where vacancies, in the future, shall be filled only by assigning an officer from the line. A corps of engineers is now provided by law. There will be a medical corps, a judge advocate's corps, a quartermaster and subsistence departments, and a pay corps. Added to these, are a signal corps, with the system in full force after original vacancies are filled, an ordnance department and a record and pension bureau. Finally, the new law has established a corps of women nurses.

The army, at a maximum in all arms of the service, will be 100,000 men, and at the minimum 58,000; but there is no minimum of artillery. The full force is needed to man our coast defense batteries and supply our field artillery; deducting the 19,000 men of the artillery corps, our cavalry and infantry, on a peace footing, will not number 40,000 men. Every lover of his country can rejoice that this act creates a small, perfectly organized force, which can, in time of need, be immediately expanded, and under competent and experienced officers can form the first fighting line and hold an enemy in check until the volunteers can be mustered in the Service.

THE TOTAL AMOUNT OF OUR FORTUNE.

According to the United States Census of 1890.

The value of real and personal property as actually assessed by the officials of the several states and territories has always formed the basis of the decennial estimates of the wealth of the United States. For the three decades ending in 1880 the estimated true value of all property and the value of real estate and personal property as assessed, including the assessed valuation as returned in 1890, was as follows:

YEARS.	ASSESSED VALUATION.	ESTIMATED TRUE VALUATION.
1860.....	\$12,084,560,005	\$16,159,616,058
1870.....	14,178,986,732	30,068,518,507
1880.....	16,902,993,543	43,642,000,000
1890.....	24,249,589,804	62,610,000,000

This is nearly \$1,000 *per head*, as against \$514 *per head* in 1860, \$780 *per head* in 1870, and \$870 *per head* in 1880.

Flax and Hemp in the United States.

The total area of land devoted to the cultivation of *flax* in 1889 is found, in the 1890 census, to have been 1,318,698 acres, the production of flaxseed 10,250,410 bushels, the production of fibre 241,389 pounds, the amount of flax straw sold or so utilized as to have a determinable value 207,757 tons, and the total value of all flax products, \$10,436,228. While flaxseed is reported from 31 states, Minnesota, Iowa, South Dakota and Nebraska produce 80.06 per cent of the total amount, or 1,035,613 bushels in excess of the entire production of the United States at the census of 1880. Throughout the greater portion of the principal flaxseed-producing region flax straw is of little or no value, and much of the so-called fibre is only an inferior quality of tow, used chiefly for upholstering purposes. There are indications, however, of the revival in the United States of a linen industry that will afford a market for fine flax fibre of domestic production, and revive a branch of agriculture that has for many years been almost extinct. For the present, linseed oil is the only important product obtained from flax in the United States.

The total area of land devoted to the cultivation of *hemp*, in 1889, was 25,054 acres, and the production of fibre 11,511 tons, valued at \$1,102,602 to the producers. This branch of agricultural industry is confined almost exclusively to the State of Kentucky, which produced 93.77 per cent of the total hemp crop of the country.

THE NATION'S DEAD.

A recent report shows that the nation's dead are buried in seventy-nine national cemeteries, of which twelve are in the Northern States. Among the principal ones in the North are Cyrus Hill, Brooklyn, N.Y., with its 3,786 dead; Finn's Point, N.J., which contains the remains of 2,644 unknown dead; Gettysburg, Pa., with 1,967 known, and 1,608 unknown dead; Mound City, Ill., with 2,505 known and 2,721 unknown graves; Philadelphia, with 1,909 dead, and Woodlawn, Elmira, N.Y., with its 3,090 dead. In the South, near the scenes of terrible conflicts, are located the largest depositories of the nation's heroic dead:

Arlington, Va., 16,264, of whom 4,349 are unknown.

Beaufort, S.C., 9,241, of whom 4,493 are unknown.

Chalmette, La., 12,511, of whom 5,674 are unknown.

Chattanooga, Tenn., 12,962, of whom 4,963 are unknown.

Fredericksburg, Va., 15,257, of whom 12,770 are unknown.

Jefferson Barracks, Mo., 11,440, of whom 2,906 are unknown.

Little Rock, Ark., 5,602, of whom 2,337 are unknown.

City Point, Va., 5,122, of whom 1,374 are unknown.

Marietta, Ga., 10,151, of whom 2,963 are unknown.

Memphis, Tenn., 13,997, of whom 8,817 are unknown.

Nashville, Tenn., 16,526, of whom 4,701 are unknown.

Popular Grove, Va., 6,199, of whom 4,001 are unknown.

Richmond, Va., 6,542, of whom 5,700 are unknown.

Salisbury, N.C., 12,126, of whom 12,032 are unknown.

Stone River, Tenn., 5,602, of whom 288 are unknown.

Vicksburg, Miss., 16,600, of whom 12,704 are unknown.

Antietam, Va., 4,671, of whom 1,818 are unknown.

Winchester, Va., 4,559, of whom 2,365 are unknown.

In all, the remains of 300,000 men who fought for the Stars and Stripes find guarded graves in our national cemeteries. Two cemeteries are mainly devoted to the brave men who perished in the loathsome prisons of the same name—Andersonville, Ga., which contains 13,714 graves, and Salisbury, with its 12,126 dead, of whom 12,032 are unknown.

REMARKABLE WATERFALLS,

Niagara Falls, North America.....	164 feet
Montmorency Falls, Quebec, Canada.....	250 "
Natchikin Falls, Kamschatka.....	300 "
Lanterbaum, Lake Theen, Switzerland.....	900 "
Falls of Arve, Savoy.....	1,100 "
Cerosola Cascade, Alps, Switzerland.....	2,400 "

United States Pension Statistics. [1871-1900] Number of Pension Claims, Pensioners and Disbursements, [1900]

Fiscal year ending June 30.	Army and Navy. Claims allowed.		Total number of applications filed.	Total number of claims allowed.
	Inval- ids.	Widows, etc.		
1871.....	7,934	8,399	43,969	16,562
1872.....	6,468	7,244	26,391	34,333
1873.....	6,551	4,073	18,303	16,052
1874.....	5,937	3,152	16,734	10,462
1875.....	5,760	4,736	18,704	11,152
1876.....	5,360	4,376	23,523	9,977
1877.....	7,282	3,861	22,715	11,326
1878.....	7,414	3,550	44,587	11,962
1879.....	7,242	3,379	57,118	31,346
1880.....	10,176	4,455	141,466	19,545
1881.....	21,394	3,920	31,116	27,394
1882.....	22,946	3,999	40,939	27,664
1883.....	32,014	5,303	48,776	38,162
1884.....	27,414	6,366	41,785	34,192
1885.....	27,580	7,743	40,918	35,767
1886.....	31,937	8,610	49,895	40,857
1887.....	35,283	11,217	72,465	55,194
1888.....	44,893	15,359	75,726	60,252
1889.....	36,830	11,924	81,220	51,912
1890.....	50,395	14,612	165,044	66,637
1891.....	.....	.....	696,941	156,486
1892.....	.....	.....	246,638	224,047
1893.....	.....	.....	119,361	121,639
1894.....	.....	.....	57,141	39,085
1895.....	.....	.....	45,361	39,185
1896.....	.....	.....	42,244	40,374
1897.....	.....	.....	50,585	50,101
1898.....	.....	.....	48,732	52,648
1899.....	.....	.....	53,881	37,077
1900.....	.....	.....	51,961	42,645

United States Pension Statistics—Continued.

Fiscal y'r ending June 30.	Number of pensioners on the roll and the amount paid for pensions, with cost of disbursements.			
	Inva- lids.	Widows, etc.	Total.	Disbursements.
1871.....	93,394	114,101	207,495	33,077,384.00
1872.....	113,954	118,275	232,229	30,169,341.00
1873.....	119,500	118,911	238,411	29,185,290.00
1874.....	121,628	114,613	236,241	30,593,750.00
1875.....	122,989	111,832	234,821	29,683,117.00
1876.....	124,239	107,898	232,137	28,351,600.00
1877.....	128,723	103,381	222,104	28,580,157.00
1878.....	131,649	92,349	223,998	26,844,415.00
1879.....	138,615	104,140	242,755	33,780,526.00
1880.....	145,410	105,392	250,802	57,240,540.00
1881.....	164,110	104,720	268,830	50,626,539.00
1882.....	182,633	103,064	285,697	54,296,281.00
1883.....	206,042	97,616	303,658	60,431,973.00
1884.....	225,470	97,286	322,756	57,273,537.00
1885.....	247,146	97,979	345,125	65,693,707.00
1886.....	270,346	95,437	365,783	64,584,270.00
1887.....	306,298	99,709	406,007	74,815,483.85
1888.....	343,701	108,857	452,557	79,646,146.37
1889.....	351,284	173,241	524,525	88,275,113.28
1890.....	415,654	122,290	537,944	106,493,890.19
1891....	536,821	139,339	676,160	118,548,959.71
1892....	703,242	172,826	876,068	141,086,948.84
1893....	759,706	206,306	966,012	158,144,342.51
1894....	754,382	215,162	969,544	140,772,163.68
1895....	750,951	219,567	970,524	140,959,361.00
1896....	747,967	222,557	970,678	139,280,075.00
1897....	746,829	229,185	976,014	140,845,772.00
1898 ...	760,853	232,861	993,714	145,748,865.56
1899 ...	753,451	238,068	991,519	139,482,696.00
1900....	751,864	241,674	993,529	139,381,522.73

Wars of the United States.

STATEMENT OF THE NUMBER OF UNITED STATES TROOPS ENGAGED.

WARS.	DATE.		TROOPS ENGAGED.		
	From—	To—	Regulars.	Militia and Volunteers.	Total.
War of the Revolution.....	April 19, 1775	April 11, 1783	130,711	58,750	.....
Estimated additional.....	.....	.....	.....	105,330	309,791
Northwestern Indian wars...	Sept. 19, 1790	Aug. 3, 1795	.....	.....	8,983
War with France.....	July 9, 1798	Sept. 30, 1800	.....	.....	*4,593
War with Tripoli.....	June 10, 1801	June 4, 1805	.....	.....	*3,339
Northwestern Indian war;					
General Harrison.....	Sept. 11, 1811	Nov. 11, 1811	250	660	910
Creek Indian war.....	July 27, 1813	Aug. 9, 1814	600	13,181	13,781
War of 1812 with Great					
Britain.....	June 18, 1812	Feb. 17, 1815	85,000	471,622	576,622
Seminole Indian war.....	Nov. 20, 1817	Oct. 21, 1818	1,000	6,911	7,911
Black Hawk Indian war.....	April 21, 1831	Sept. 31, 1832	1,339	5,126	6,465
Cherokee disturbance or					
removal.....	1836	1837		9,494	9,494

WARS OF THE UNITED STATES—CONTINUED.

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WARS.	DATE.		TROOPS ENGAGED.		
	From—	To—	Regulars.	Militia and Volunteers.	Total.
Creek Indian war or disturbance	May 5, 1836	Sept. 30, 1837	935	12,483	13,483
Florida Indian war	Dec. 23, 1835	Aug. 14, 1843	11,169	29,953	41,000
Aroostook disturbance	1838	1839	.....	1,500	1,500
War with Mexico	April 24, 1846	July 4, 1848	30,954	73,776	112,230
Apache, Navajo, and Utah war	1849	1855	1,500	1,061	2,561
Comanche Indian war	1854	1854	.....	503	503
Seminole Indian war	1856	1858	.....	2,687	2,687
Civil war	1861	1865	.....	.....	2,859,132

*Naval forces engaged. The number of troops on the Confederate side during the Civil War was about 600,000.

The number of casualties in the volunteer and regular armies of the United States, during the war of 1861-65, was reported by the Provost-Marshal General in 1866:

WARS OF THE UNITED STATES—CON- TINUED.

Killed in battle, 61,362; died of wounds, 34,727; died of disease, 183,287; total died, 279,376; total deserted, 199,105.

Number of soldiers in the Confederate service, who died of wounds or disease (partial statement), 133,821. Deserted (partial statement), 104,428.

Number of United States troops captured during the war, 212,608; Confederate troops captured, 476,169.

Number of United States troops paroled on the field, 16,431; Confederate troops paroled on the field, 248,599.

Number of United States troops who died while prisoners, 29,725; Confederate troops who died while prisoners, 26,774.

The casualties on the American side in the last war with Great Britain, 1812-15, were: Killed, 1,877; wounded, 3,737; total, 5,614.

The casualties on the American side in the war with Mexico, 1846-48, were: Killed, 1,049; died of wounds, 904; wounded, 3,420.

The estimated cost to the United States of the Revolutionary War was \$135,193,703; of the war of 1812 with Great Britain, \$107,159,003; of the Mexican War, \$100,000,000; of the Civil War (including all expenses growing out of the war), \$6,189,929,909.

For Spanish-American War see pages 530-32.

The height of the railway bridge at Niagara river, above the river, is 250 feet.

Aggregate Debt of Nation, States and Counties, 1880 and 1890.

	1880.	1890.	PER HEAD.	
			1880.	1890.
The United States.	\$1,922,517,364	\$ 915,962,112	\$38.33	\$14.63
The Several States and Territories.	290,326,643	223,107,883	5.69	3.50
The Several Counties.....	124,105,027	141,950,845	2.47	2.27
Total.....	\$2,336,949,034	\$1,281,020,840	\$46.59	\$20.40

THE DEBT OF THE WORLD, JUNE 1, 1890

(Less Sinking Fund and Local Foreign Debt Not Compiled by Census Bureau).

CHARACTER OF DEBT.	DEBT LESS SINKING FUND.		INCREASE.	DECREASE.	PER HEAD.	
	1890.	1880.			1890.	1880.
Total.....	\$28,648,392,681	\$28,530,288,890	\$ 118,103,791	.....	\$32.85	\$37.27
National Debt of Foreign Countries..	26,621,222,135	25,484,492,879	1,136,729,256	....	32.88	35.62
National Debt of United States.....	891,960,104	1,922,517,364	.....	\$1,030,557,260	14.24	38.33
State and Local Debt of United States.....	1,135,210,442	1,123,278,647	11,931,795	.....	18.14	22.39

DETAIL OF STATE AND LOCAL DEBT OF THE UNITED STATES.

					PER HEAD.	
	1890.	1880.			1890.	1880.
State.....	\$228,997,389	\$297,244,095	.....	\$68,246,706	\$ 3.66	\$ 5.93
County	145,048,045	124,105,027	\$20,943,018	.....	2.32	2.47
Municipal	724,463,060	684,348,843	40,114,217	.....	11.57	13.64
School District.....	36,701,948	17,580,682	19,121,266	.....	0.59	0.35
			Per Head.....		\$18.14	\$22.39

STEEL AND BRASS PLATES.

Weight of steel and brass plates per sq. foot by American gauge.

No. of gauge.	Steel, pounds.	Brass, pounds.	No. of gauge.	Steel, pounds.	Brass, pounds.
1	10.993	12.382	18	1.531	1.725
2	9.789	11.027	19	1.363	1.536
3	8.718	9.819	20	1.214	1.367
4	7.763	8.744	21	1.081	1.218
5	6.913	7.787	22	.9631	1.084
6	6.156	6.934	23	.857	.966
7	5.482	6.175	24	.763	.860
8	4.882	5.499	25	.680	.766
9	4.348	4.897	26	.605	.682
10	3.871	4.360	27	.539	.607
11	3.448	3.883	28	.480	.541
12	3.070	3.458	29	.427	.481
13	2.734	3.079	30	.380	.429
14	2.435	2.742	31	.339	.382
15	2.168	2.442	32	.302	.340
16	1.931	2.175	33	.269	.303
17	1.719	1.937	34	.239	.269

RAILWAY SIGNALS.

One whistle signifies "down brakes."

Two whistles signify "off brakes."

Three whistles signify "back up."

Continued whistles signify "danger."

Rapid short whistles "a cattle alarm."

A sweeping parting of the hands on a level with the eyes signifies "go ahead."

Downward motion of the hands with extended arms signifies "stop."

Beckoning motion of one hand, signifies "back."

Red flag waved up the track signifies "danger."

Red flag stuck up by the roadside signifies "danger ahead."

Red flag carried on a locomotive signifies "an engine following."

Red flag hoisted at a station is a signal to "stop."

Lanterns at night raised and lowered vertically is a signal "to start."

Lanterns swung at right angles across the track means "stop."

Lanterns swung in a circle signifies "back the train."

COST OF SMALL QUANTITIES OF HAY.

PRICE PER TON.	25 lbs. worth.	40 lbs. worth.	100 lbs. worth.	200 lbs. worth.	300 lbs. worth.
\$ 4 00..	5 cts.	10 cts.	20 cts.	\$ 40	\$ 60
5 00..	6 "	12 "	25 "	50	75
6 00..	7 1/2 "	15 "	30 "	60	90
7 00..	8 1/2 "	17 "	35 "	70	1 05
8 00..	10 "	20 "	40 "	80	1 20
9 00..	11 "	22 "	45 "	90	1 35
10 00..	12 1/2 "	25 "	50 "	1 00	1 50
11 00..	13 1/2 "	27 "	55 "	1 19	1 65
12 00..	15 "	30 "	60 "	1 20	1 80
13 00..	16 "	32 "	65 "	1 30	1 95
14 00..	17 1/2 "	35 "	70 "	1 40	2 10
15 00..	18 1/2 "	37 "	75 "	1 50	2 25

AMOUNT OF OIL IN SEEDS.

Kind of Seed.	Per cent. Oil.	Kind of Seed.	Per cent. Oil.
Bitter Almond.....	55	Oats.....	6 1/2
Barley	2 1/2	Rapeseed.....	55
Clover hay.....	5	Sweet Almond.....	47
Hemp seed.....	19	Turnip seed.....	45
Indian corn.....	7	White mustard.....	37
Linseed, ...	17	Wheat bran.....	4
Meadow hay.....	3 1/2	Wheat-straw	3
Oat-straw	4	Wheat flour.....	3

RELATIVE VALUE OF DIFFERENT FOODS
FOR STOCK.

One hundred pounds of good hay for stock are equal to:

Articles.	Pounds.	Articles.	Pounds.
Beans.....	28	Oats.....	59
Beets	669	Oil-cake, linseed....	43
Clover, red, green...373		Peas, dry.....	37 1/2
Carrots	371	Potatoes	350
Corn.....	62	Rye-straw	429
Clover, red, dry.....	88	Rye	53 1/2
Lucerne.....	89	Turnips.....	469
Mangolds	368 1/2	Wheat	44 1/2
Oat-straw	317		

THE AVERAGE VELOCITIES OF VARIOUS BODIES.

A man walks	3	miles per hour or 4 feet per second.
A horse trots	7	" " 10 " "
A horse runs	20	" " 29 " "
Steamboat runs	20	" " 26 " "
Sailing vessel runs	10	miles per hour or 14 feet per second.
Rapid rivers flow	3	" " 4 " "
A moderate wind blows	7	miles per hour or 10 feet per second.
A storm moves	36	miles per hour or 52 feet per second.
A hurricane moves	80	" " 117 " "
A rifle ball	1000	" " 1466 " "
Sound	743	" " 1142 " "
Light,	192,000	miles per second.
Electricity,	288,000	miles per second.

MORMONS, "MORMON WAR."

A sect of religious fanatics that has arisen within the present generation, and gained over many converts. Its founder was Joseph Smith, an American. Brigham Young succeeded, after the death of Smith, to the post of prophet, and retained it until his death, at Salt Lake City, Aug. 29, 1877. In February, 1857, an armed body of Mormons dispersed the United States district court, in Utah, and openly defied the laws of the nation, because their territory was not admitted as a State. President Buchanan appointed Colonel Cumming governor of the territory, and sent troops to suppress the rebellion. Young issued a manifesto, and determined on resistance to national authority, but when the governor arrived there, in April, 1858, Young concluded to surrender, and so the "Mormon war" ended. After remaining for a time, the troops, in May, 1860, left the territory.

Uncle Sam.—The popular title for the United States. In the year 1812, a large quantity of provisions for the army was purchased at Troy, N. Y., by Elbert Anderson, a government contractor. The goods were inspected by two brothers, Ebenezer and Samuel Wilson. The last-named was invariably known among the workmen as "Uncle Sam." The packages were marked E. & A.—U. S. On being asked the meaning of these initials, a workman jokingly replied that he did not know unless they meant Elbert Anderson and Uncle Sam. So the title became current among workmen, soldiers and people, and the United States Government is known now by those who affectionately call it Uncle Sam.

LONGEVITY IN EUROPE.

Servia contains more centenarians than any other country on the globe. In this little country, which has less than 1,300,000 inhabitants, there are actually 575 persons, according to the last census returns, whose ages exceed 100 years. Ireland comes next in the list with 578, but then her population is very much larger than that of Servia. Spain has 401 out of a population of 17,000,000, and France counts 213 among her 38,000,000 inhabitants. England, Scotland and Wales can only muster 192 between them, and Germany, with her enormous population of 55,000,000, has but 78. Norway has 23 out of 2,500,000 inhabitants, and Sweden a population of nearly 5,000,000 and only 20 centenarians. Denmark has but two and in little Switzerland there is not a single person whose years number five-score.

KNOW-NOTHINGS.

The name of a secret political party which originated in 1853. The party, or rather society was first formed by a person of some notoriety, who called himself Ned Buntline—the writer of sea stories.

Ned was once a midshipman in the United States navy, but left the service and commenced the business of founding a secret order, of so exclusive a character that none were to be admitted as members whose grandfathers were not natives of the United States. Ned gave instructions to his followers to reply to all questions in respect to the movements of the new party "I don't know." So they were at first called don't-knows, and then know-nothings, by outsiders. The *Crusader*, a party organ, printed the principles of the society as follows: Repeal of all naturalization laws; none but native Americans for office; a pure American common school system; war to the hilt on Romanism. In the year 1855-6 the slavery question had assumed paramount importance, and the civil war between the free state men and the pro-slavery-ites in the territory of Kansas, so overshadowed the public mind, that foreign citizenship was forgotten, and the know-nothings as a body disappeared. The nearest approach to know-nothingism or Americanism, in 1856 (as indicated by the name), was the American party, whose nominees for President and Vice-President were Millard Fillmore and Andrew J. Donelson, of Tennessee. In that year there was a general excitement, and crush of political elements, which resulted in the complete annihilation of the American and Whig parties. Thereupon rose the Republican party

ARCHIMEDEAN SCREW, OR SPIRAL PUMP.

It is so-called for Archimedes, its inventor. It consists of a pipe twisted spirally round a cylinder, which, when at work, is supported in an inclined position. The lower end of the pipe is immersed in water, and when the cylinder is made to revolve on its own axis, the water is raised from bend to bend in the spiral pipe until it flows out at the top.

A NEW AND PROFITABLE INDUSTRY.

TROPIC AND SEMI-TROPIC FRUIT GROWING.

In addition to the tropic and semi-tropic fruits and nuts grown for home and family use through the United States, there were, in the census year 1890, 13,515 acres of almond, 677.50 of banana, 169.88 of citron, 9,864 of cocoanut, 4,477 of fig, 550 of guava, 1,362.25 of kaki, 7,256 of lemon, 495.58 of lime, 12,180 of madeira nut, 7,097 of olive, 184,003 of orange, 2,189.50 of pineapple, 171.89 of pomelo, and 27,419.50 of pecan trees, representing 658,566 bearing and 800,010 nonbearing almond trees, 577,782 bearing banana plants, 4,237 bearing and 14,110 nonbearing citron trees, 123,227 bearing and 1,199,549 nonbearing cocoanut trees, 138,186 bearing and 285,201 nonbearing fig trees, 32,943 bearing and 120,529 nonbearing guava trees, 58,390 bearing and 124,522 nonbearing kaki trees, 167,663 bearing and 498,784 nonbearing lemon trees, 19,096 bearing and 44,255 nonbearing lime trees, 188,409 bearing and 411,248 nonbearing madeira nut trees, 278,380 bearing and 331,022 nonbearing olive trees, 3,885,890 bearing and 9,705,246 nonbearing orange trees, 21,750,000 pineapple plants, 3,279 bearing and 12,867 nonbearing pomelo trees, and 214,988 bearing and 657,980 nonbearing pecan trees.

Excluding pineapples and bananas, which are all counted as bearing plants, as they commence fruiting within a year of planting, it will be noted that the average number of all nonbearing trees is about double that of the bearing trees, the product of which in the census year, was as far as reported, valued at \$14,116,226.59, divided as follows: almond, \$1,525,109.80; banana, \$280,653.75; cocoanut, \$251,217.41; fig, \$307,271.76; lemon, \$988,099.92; lime, \$62,496.90; madeira nut, \$1,256,958; olive, \$386,368.32; orange, \$6,602,099.06; pineapple, \$812,159.17; pomelo, \$27,216, and pecan, \$1,616,576.50. On the basis of present prices, with all the nonbearing trees in fruitage, the next census (1900) ought to show a value of product of *more than \$50,000,000*. As a forecast of the future growth of these branches of horticulture, the above figures are most interesting.

ARTESIAN WELLS

So called from the French province of Artois, whence they are supposed to originate. It is the name given to a peculiar kind of bored well, in which the water rises to the surface and overflows. In the United States any deep-bored well is called *artesian*, even if the water has to be pumped from a considerable depth. The geological conditions permitting an overflow without pumping are not general—since it is necessary that the region should have a more or less complete basin-structure, and that there should be a series of permeable, covered by impermeable, beds. Artesian wells vary in depth from less than 100 feet to nearly 4,000 feet, the deepest borings being for petroleum. The total number of artesian wells on farms, in June 1890, in the states and territories forming the western half of the United States, was 8,097, representing an estimated aggregate investment of \$1,988,461.26. Complete statistics, concerning the depth, cost, discharge, and other features of 2,971 of such wells, fairly distributed through the various states and counties from which they are reported, have been obtained from the owners, and from the averages derived from such statistics, the number of artesian wells used for the purposes of irrigation is computed at 3,930; the average depth per well, 210.41 feet; the average cost per well, \$245.58; the total discharge of water per minute, 440,719.71 gallons, or 54.43 gallons per well per minute; the average area irrigated per well, 13.21 acres, and the average cost of water per acre irrigated, \$18.55. Over one-half of these wells are in the State of California, where 38,378 acres of agricultural land were irrigated by artesian water. Utah stands second in the number of artesian wells used for irrigation purposes and Colorado in the area of land thus irrigated.

CURIOSITIES OF THE BIBLE.

The Bible contains 3,566,480 letters, 773,746 words, 31,173 verses, 1,189 chapters and 66 books. The word **AND** occurs 46,277 times. The word **LORD** occurs 1,855 times. The word **REVEREND** occurs but once, which is in the 9th verse of the 111th Psalm. The middle verse is the 8th verse of the 118th Psalm. The 21st verse of the 7th chapter of Ezra contains all the letters of the alphabet, except the letter **J**. The longest verse is the 9th verse of the 8th chapter of Esther. The shortest verse is the 35th verse of the 11th chapter of St. John. There are no words or names of more than six syllables.

STATE FLOWERS.

The following are "State Flowers," as adopted by the votes of the public school scholars of the respective States:

Alabama.....	Golden Rod	Montana.....	Bitter Root
Colorado.....	Columbine	Nebraska.....	Golden Rod
Delaware....	Peach Blossom	New York	Rose
Idaho.....	Syringia	North Dakota....	Wild Rose
Iowa.....	Rose	Oklahoma Territory....	
Maine..	Pine Cone and Tassel	.....	Mistletoe
Minnesota....	{ Cypripodium or Moccasin Flower.	Oregon.....	Golden Rod
		Utah.....	Sego Lily
		Vermont.....	Red Clover

In other States the scholars have not yet taken action. In Rhode Island and Wisconsin a vote was taken for a "State Tree," resulting in the selection of the Maple. In the State of Washington the Rhododendron is the choice of many, but has not been adopted.

The universally, if not officially, recognized National Flower is THE GOLDEN ROD.

THE GREAT GAME OF GOLF.

The progress of golf continues in the conservative lines which have governed its progress in the past, the tendency toward a process of elimination and selection of the best players for national honors being materially helped by the continued aggregation of local clubs into subordinate and State organizations. At the same time the formation of clubs continues with unabated vigor.

The men's amateur national championship was contested on the Garden City Links, Long Island, from Monday, July 2, to Saturday, July 7, 1900, over an 18-hole course. There were 121 entries, of whom 32 only qualified to continue the contest beyond the preliminary round of 36-holes medal play. The thirty-two was reduced by match play on July 3 to 16. Then on July 4 to 8, on July 5 to 4, on July 6 to 2, and on July 7 the two, Walter J Travis and Findlay S. Douglas, champion of 1898, played the finals, Travis winning on the eighteen-hole by 2 up. It was the second victory for home-taught golf, Travis being entirely American self-taught.

The women's national championship, and driving, approaching and putting contests, were played over the links at Shinnecock Hills, Southampton, Long Island, Aug. 28 to Sept. 1, 1900. Eighteen holes medal play reduced fifty-eight entrants to sixteen on the first day; from thence on match play, reduced the sixteen to eight on the 29th, to four on the 30th, to two on the 31st, and on Sept. 1 Miss Francis C. Griscom, of Philadelphia, defeated Miss Margaret Curtis, of Essex County.

INTERNATIONAL CANALS BUILT AND BEING BUILT

Suez Canal.—The Suez Canal is 92 miles long and cost \$102,750,000. Three thousand three hundred and fifty-two ships, of 8,039,106 tons net, passed through the Suez Canal in 1894, yielding \$14,770,081 in dues. Nearly 95 per cent of the vessels were enabled to steam at night through the canal owing to the general use of the electric light. As to the nationality of the vessels, the English were 2,394, German 294, French 184, Dutch 188, Austro-Hungarian 78, Italian 63, Norwegian 40, Turkish 33, Spanish 28, Russian 35, Portuguese 2, Egyptian 1, Japanese 6, Guatemalan 1, American war ships and yachts 5.

Panama Canal.—Length, 46½ mi.; estimated time of transit, 14 hrs. The construction of a canal with locks has been pronounced practicable by an international board of French, English, German, Russian and American engineers. The new plans provide for the usual system of locks and dams. Good harbors exist at the Atlantic and Pacific terminals. The canal is practically finished from Colon to Buejo, 14 miles; this, however is the least expensive part. The great trouble is in passing through the Culebra Ridge. The width of the canal will be 160 ft. at the top and 72 ft. at the bottom, except through the ridge where it will be 78 ft. at the top and 29 ft. at the bottom. The cost of completing the canal, it is said, will not exceed \$100,000,000. About \$275,000,000 is estimated as having already been expended on the canal, resulting in the accomplishment of about 40 per cent. of the entire amount of excavation that will be required, Time required for completion, about ten years.

Nicaragua Canal.—Projected to connect the Atlantic and Pacific oceans, using the waters of Lake Nicaragua. Total distance from ocean to ocean, 189.9 miles; depth of canal, 30 ft.; least width at bottom, 100 ft.; time transit from ocean to ocean, 44 hours; length of Lake Nicaragua, 110 miles; average width 40 miles; surface area, about 2,600 square miles; area of watershed of lake, about 8,000 square miles.

From New York to San Francisco by water the present distance is 15,672 miles, or 31,344 miles the round trip; by the Nicaragua Canal the distance between the same points will be 5,636 miles, or 11,272 miles both ways, a saving of 10,036 miles each way, and of 20,072 miles on the round trip. The distances in statute miles from New York to the Pacific Ocean by the principal land and water routes are: By water to Cape Horn, 7,897; by Southern Pacific, 3,709; by Canadian Pacific, 3,619; by Central Pacific, 3,269; by Northern Pacific, 3,237; by Nicaragua Canal, 2,519.

FORMULÆ FOR WOOD SCREWS. $N = \text{number.}$ $D = \text{diameter.}$

$$D = (N \times .01325) + .056.$$

$$D - .056.$$

$$N = \frac{\quad}{.01325.}$$

DIAMETER AND NUMBER OF WOOD SCREWS.

No.	Diameter.	No.	Diameter.
0	.056	16	.268
1	.069	17	.281
2	.082	18	.293
3	.096	19	.308
4	.109	20	.321
5	.122	21	.334
6	.135	22	.347
7	.149	23	.361
8	.162	24	.374
9	.175	25	.387
10	.188	26	.401
11	.201	27	.414
12	.215	28	.427
13	.228	29	.440
14	.241	30	.453
15	.255		

MELTING POINT OF METALS.

Platinum	3080°	Fahr. (Pouillet).
Wrought iron.....	2822	" "
Steel	2462	" "
Cast iron (Gray).....	2210	" "
Gold.....	2192	" "
Silver.....	1832	" "
Antimony	842	" (I. Lowthian Bell).
Zinc.....	782	" "
Lead	620	" "
Tin	475	" "

WEIGHT OF GRINDSTONES.

RULE.—Square the diameter (in inches); multiply by thickness (in inches); then by the decimal .06363; the product will be the weight of the stone in pounds.

ALLOYS.

ALLOYS.	Tin.	Copper.	Zinc.	Antimony.	Lead.	Bismuth.
Brass, engine bearings.....	13	112	$\frac{1}{4}$	.....	.....	.....
Tough brass, engine work.....	15	100	15	.....	.....	.....
“ for heavy bearings.....	25	160	5	.....	.....	.....
Yellow brass, for turning.....	.....	2	1	.....	.....	.....
Flanges to stand brazing.....	.....	32	1	.....	1	.....
Bell-metal.....	5	16	.....	.....	.....	.....
Babbitt's metal.....	10	1	.....	1	.....	.....
Brass, locomotive bearings.....	7	64	1	.....	.....	.....
“ for straps and glands.....	16	130	1	.....	.....	.....
Muntz's sheathing.....	.....	6	4	.....	.....	.....
Metal to expand in cooling.....	.....	.....	.....	2	9	1
Pewter.....	100	.....	.....	17	.....	.....
Spelter.....	.....	1	1	.....	.....	.....
Statuary bronze.....	2	90	5	.....	2	.....
Type-metal, from.....	.....	.....	.....	1	3	.....
“ to.....	.....	.....	.....	1	7	.....
SOLDERS.						
For lead.....	1	.....	.....	.....	$1\frac{1}{2}$	.....
“ tin.....	1	.....	.....	.....	2	.....
“ pewter.....	2	.....	.....	.....	1	.....
“ brazing (hardest).....	.....	3	1	.....	.....	.....
“ “ (hard).....	.....	1	1	.....	.....	.....
“ “ (soft).....	1	4	3	.....	.....	.....
“ “ “ or.....	2	.....	.....	1	.....	.....

SURE CURE FOR SMALL-POX AND SCARLET FEVER.

The following small-pox remedy was given to the public by a correspondent of the Stockton (Cal.) *Herald*, who says: “I herewith append a recipe which has been used, to my knowledge, in hundreds of cases. It will prevent or cure small-pox, though the pittings are filling. It will also cure scarlet fever. Here is the recipe as I have used it to cure small-pox. When learned physicians said the patient must die, it cured: Sulphate of zinc, one grain; foxglove (*digitalis*), one grain; half a teaspoonful of sugar. Mix with two tablespoonfuls of water. When thoroughly mixed, add four ounces of water. Take a teaspoonful every hour. Either disease will disappear in twelve hours. For a child, smaller dose according to its age. If countries would compel physicians to use this, there would be no need of pest-houses. If you value advice and experience, use this for that terrible disease.”

DIFFERENT COLORS OF IRON CAUSED BY HEAT.

Deg. Cen.	Deg. Fah.	
261 370	502 680	{ Violet, Purple and Dull Blue. Between 261° C to 370° C it passes to Bright Blue, Sea Green, and then disappears.
500	932	
525	977	{ Commences to be covered with a light coating of oxide; becomes a deal more impressible to the hammer, and can be twisted with ease.
700	1292	
800	1472	Becomes Nascent Red.
900	1657	Somber Red.
1000	1832	Nascent Cherry.
1100	2012	Cherry.
1200	2192	Bright Cherry.
1300	2372	Dull Orange.
1400	2552	Bright Orange.
1500	2732	White.
1600	2912	Brilliant White-welding heat.
		{ Dazzling white.

STANDARD SCREW THREADS.

Diam. of Screw.	Thread per Inch.	Diam. at root of Thread.	Diam. of Screw.	Thread per Inch.	Diam. at root of Thread.
$\frac{1}{4}$	20	.185	2	$4\frac{1}{2}$	1.712
$\frac{5}{16}$	18	.240	$2\frac{1}{4}$	$4\frac{1}{2}$	1.962
$\frac{3}{8}$	16	.294	$2\frac{1}{2}$	4	2.175
$\frac{7}{16}$	14	.344	$2\frac{3}{4}$	4	2.425
$\frac{1}{2}$	13	.400	3	$3\frac{1}{2}$	2.628
$\frac{9}{16}$	12	.454	$3\frac{1}{4}$	$3\frac{1}{2}$	2.878
$\frac{5}{8}$	11	.507	$3\frac{1}{2}$	$3\frac{1}{4}$	3.100
$\frac{3}{4}$	10	.620	$3\frac{3}{4}$	3	3.317
$\frac{7}{8}$	9	.731	4	3	3.566
1	8	.837	$4\frac{1}{4}$	$2\frac{7}{8}$	3.825
$1\frac{1}{8}$	7	.940	$4\frac{1}{2}$	$2\frac{3}{4}$	4.027
$1\frac{1}{4}$	7	1.065	$4\frac{3}{4}$	$2\frac{5}{8}$	4.255
$1\frac{3}{8}$	6	1.160	5	$2\frac{1}{2}$	4.480
$1\frac{1}{2}$	6	1.284	$5\frac{1}{4}$	$2\frac{1}{2}$	4.730
$1\frac{5}{8}$	$5\frac{1}{2}$	1.389	$5\frac{1}{2}$	$2\frac{3}{8}$	5.053
$1\frac{3}{4}$	5	1.490	$5\frac{3}{4}$	$2\frac{3}{8}$	5.203
$1\frac{7}{8}$	5	1.615	6	$2\frac{1}{4}$	5.423

Angle of Thread 60°.

Flat at top and bottom $\frac{1}{8}$ of pitch.

COPARTNERSHIPS.

Partnerships may be either general or special. In general partnerships, money invested ceases to be individual property. Each member is made personally liable for the whole amount of debts incurred by the company. The company is liable for all contracts or obligations made by individual members.

Special partners are not liable beyond the amount contributed.

A person may become a partner by allowing people generally to presume that he is one, as, by having his name on the sign or parcel, or in the bills used in the business.

A share or specific interest in the profits or loss of a business, as remuneration for labor, may involve one in the liability of a partner.

In case of Bankruptcy, the joint estate is first applied to the payment of partnership debts, the surplus only going to the creditors of the individual estate.

A dissolution of partnership may take place under express stipulations in the articles of agreement, by mutual consent, by the death or insanity of one of the firm, by award of arbitrators, or by court of equity in cases of misconduct of some member of the firm.

A partner signing his individual name to negotiable paper, which is for the use of the partnership firm, binds all the partners thereby. Negotiable paper of the firm, even though given on private account by one of the partners, will hold all the partners of the firm, when it passes into the hands of the holders, who are ignorant of the fact attending its creation.

Partnership effects may be bought and sold by a partner; he may make contracts; may receive money; indorse, draw and accept bills and notes, and, while this may be for his own private account, if it apparently be for the use of the firm, his partners will be bound by his action, provided the parties dealing with him were ignorant of the transaction being on his private account; and thus representation or misrepresentation of a partner, having relation to business of the firm, will bind the members in the partnership.

In case of death, the surviving partner must account to the representatives of the deceased.

RULE TO CALCULATE THE HORSE-POWER IN AN ENGINE.

This rule will prove correct for all ordinary engines; but there may be a very slight variation in the case of an extra long or extra short stroke.

RULE.—Multiply the diameter of the cylinder in inches by itself—in other words, square the diameter in inches, and divide by four.

Size of Lakes, Seas and Oceans.

LAKES.	Miles Long.	Miles Wide.	SEAS.	Miles Long.
Cayuga.....	36	4	Aral.....	250
George.....	36	3	Baltic.....	600
Constance.....	45	10	Black.....	932
Geneva.....	50	10	Caribbean.....	1,800
Lake of the Woods..	70	25	China.....	1,700
Champlain.....	123	12	Caspian.....	640
Ladoga.....	125	75	Japan.....	1,000
Maracaybo.....	150	60	Mediterranean.....	2,000
Great Bear.....	150	40	Okhotsk.....	600
Ontario.....	180	40	Red.....	1,400
Athabasca.....	200	20	White.....	450
Winnipeg.....	240	40	OCEANS.	Miles
Huron.....	250	90		Square.
Erie.....	270	50	Arctic.....	5,000,000
Great Slave.....	300	45	Southern.....	10,000,000
Michigan.....	330	60	Indian.....	20,000,000
Baikal.....	360	35	Atlantic.....	40,000,000
Superior.....	380	120	Pacific.....	80,000,000

Carrying Capacity of a Ten Ton Freight Car.

Flour.....	90 barrels.	Butter.....	20,000 pounds.
Lime.....	70 "	Lumber.....	6,000 feet.
Salt.....	70 "	Wheat.....	340 bushels.
Whisky.....	60 "	Barley.....	300 "
Flour.....	200 sacks.	Apples.....	370 "
Eggs.....	130 to 160 barrels.	Corn.....	400 "
Wood.....	6 cords.	Potatoes.....	430 "
Sheep.....	80 to 100 head.	Bran.....	1,000 "
Hogs.....	50 to 60 "	Oats.....	680 "
Cattle.....	18 to 20 "	Flax Seed.....	360 "

The Greatest Battles in History.

The Battle of Actium, B. C. 31, in which the combined fleets of Antony and Cleopatra were defeated by Octavius, and imperialism established in the person of Octavius.

The Battle of Arbela, B. C. 331, in which the Persians, under Tarius, were defeated by the Macedonians and Greeks under Alexander the Great.

The Battle of Marathon, B. C. 490, in which the Athenians, under Mietiadès, defeated the Persians, under Datis.

The Battle of Syracuse, B. C. 413, in which the Athenians were defeated by the Syracusans and their allies.

The Battle of Metaurus, B. C. 207, in which the Carthaginians, under Hasdrubul, were defeated by the Romans, under the Consuls, Caius, Claudius, Nero and Marcus Livius.

The Battle of Philippi, B. C. 42, in which Brutus and Cassius were defeated by Octavius and Antony. The fate of the Republic was decided.

The Battle of Blenheim, A. D. 1704, in which the French and Bavarians, under Marshal Tallard, were defeated by the English and their allies, under Marlborough.

The Battle of Chalons, A. D. 451, in which the Huns, under Attila, called the "Scourge of God," were defeated by the confederate armies of Romans and Visigoths.

Battle of Hastings, A. D. 1066, in which Harold, commanding the English army, was defeated by William the Conqueror of Normandy.

The Battle of Lutzen, 1632, which decided the religious liberties of Germany. Gustavus Adolphus was killed.

The Battle of Pultowa, A. D. 1709, in which Charles XII. of Sweden, was defeated by the Russians, under Peter the Great.

The Battle of Tours, A. D. 732, in which the Saracens were defeated by Charles Martel. Christendom was rescued from Islam.

On the 21st of October, 1805, the Great Naval Battle

of Trafalgar was fought. The English defeated the French and destroyed the hopes of Napoleon as to a successful invasion of England.

The Battle of Valmy, A. D. 1792, in which an invading army of Prussians, Austrians and Hessians, under the command of the Duke of Brunswick, were defeated by the French, under Dumouriez.

The Battle of Waterloo, 1815, in which the French, under Napoleon, were defeated by the allied armies of England, under the Duke of Wellington, and of Prussia, under Prince Blucher.

The battles around Metz, August 14, 16, 18, 1870. Bazaine, with 200,000 men, thrown into the fortress by the Germans.

The Battle of Sedan, Sept. 2, 1870. Napoleon III., with 80,000 men, surrendered to the allied Germans.

The naval battle in Manila Bay, May 1, 1898. The American squadron, under Dewey, annihilated the Spanish fleet under Montejo.

The Battle of Omdurman, Sept. 3, 1898. English-Egyptian army, under Kitchener, routed large army of dervishes under Khalifa Abdullah.

SOME GOOD MAXIMS.

There is nothing better in heaven than religion.

Our actions of to-day are the thoughts of yesterday.

A truthful woman is the greatest adornment of a home.

If you live in impure thoughts you will be impure in your lives.

Profanity is more or less a profession of your loyalty to the devil.

Nobody ever went to sleep indifferent to religion and waked up in heaven.

A child is loved by God because it has no opinions and wants to learn something.

Don't get into anybody's way with your naturalness, but try to be yourself wherever you go.

Run into heaven barefooted and bareheaded rather than miss it on account of anything in the world.

How to Preserve Eggs.

To each pailful of water, add two pints of fresh slacked lime and one pint of common salt; mix well. Fill your barrel half full with this fluid, put your eggs down in it any time after June, and they will keep two years if desired.

Facts Worth Knowing.

There are 2,754 languages.

America was discovered in 1492.

A square mile contains 640 acres.

Envelopes were first used in 1839.

Telescopes were invented in 1590.

A barrel of rice weighs 600 pounds.

A barrel of flour weighs 196 pounds.

A barrel of pork weighs 200 pounds.

A firkin of butter weighs 56 pounds.

The first steel pen was made in 1830.

A span is ten and seven eighth inches.

A hand (horse measure) is four inches.

Watches were first constructed in 1476.

The first iron steamship was built in 1830.

The first lucifer match was made in 1829.

Gold was discovered in California in 1848.

The first horse railroad was built in 1826-7.

The average human life is thirty-one years.

Coaches were first used in England in 1569.

Modern needles first came into use in 1545.

Space has a temperature of 200 degrees below zero.

Kerosene was first used for lighting purposes in 1826.

The first newspaper was published in England in 1588.

The first newspaper advertisement appeared in 1652.

Robert Bonner refused \$100,000.00 for the famous trotter *Matchless*.

Until 1776 cotton-spinning was performed by the hand-spinning wheel.

Measure 209 feet on each side and you will have a square acre within an inch.

The first sewing machine was patented by Elias Howe, Jr., in 1846.

The first steam engine on this continent was brought from England in 1753.

The first knives were used in England, and the first wheeled carriages in France in 1559.

The national colors of the United States were adopted by Congress in 1777.

The cost of coal burned by an ocean steamer on a trip will average \$13,000.

The sun is 92,500,000 miles from the earth. The latter receives only one two-billionth of the solar heat.

The nearest fixed star is 16,000,000,000 miles distant, and takes three years for light to reach the earth.

SOCIAL STATISTICS OF CITIES.

Area, population, streets and cost of repairs. Census of 1890.

CITIES.	Area—Square miles.	Population.	LENGTH OF STREETS IN MILES.			Average width of streets—feet.	Per cent of streets paved.	Proportionate width of sidewalks to Sts.	Miles of streets to each sq. mile of area.	Per cent of street area to city area.	Number of population to each mile of streets.	FINANCIAL.	
			Total.	Paved.	Graded and curbed only							Average yearly cost of construction and repairs.	Average yearly cost of street-cleaning.
New York	39.57	1,513,501	575	358	45	60	62	25	14.5	17	2,632	\$1,024,161	\$1,075,200
Chicago	160.57	1,098,576	...	...	...	50	...	...	14.9	...	...	...	...
Philadelphia	77.65	1,046,252	1,151	750	50	50	65	25	14.9	14	909	637,550	283,909
Brooklyn	19.22	804,377	653	375	3	70	57	25	34.0	87	1,232	393,945	165,165
St. Louis.	48.32	460,357	1,061	422	40	60	40	20	21.9	25	434	837,304	126,804
Boston.	35.28	446,507	408	408	...	40	100	17	11.6	9	1,094	825,000	136,673
Baltimore	18.33	433,547	780	459	100	66	59	20	42.6	53	556	120,000	110,000
San Francisco ..	15.46	297,990	342	92	190	69	27	20	22.1	29	871	958,743	58,437
Cincinnati	25.00	296,309	486	254	...	50	52	20	19.4	14	610	855,000	185,000
Cleveland	24.88	261,546	...	...	...	...	...	...	...	...	...	...	...
Buffalo	39.04	254,457	372	194	...	58	52	40	10.0	40	684	573,244	13,000
New Orleans	37.09	241,995	625	89	261	60	14	20	16.8	19	387	35,000	250,000
Pittsburg	6.08	238,473	...	...	...	...	...	...	...	...	...	...	...
Washington	...	229,296	...	...	...	...	...	...	...	...	...	...	...
Detroit	20.59	205,669	400	147	...	57	37	50	19.4	21	514	334,617	...
Milwaukee	17.00	204,150	419	72	6	75	17	20	24.6	35	487	468,077	...
Newark	17.77	181,515	186	48	138	60	26	8	10.5	12	976	20,000	30,000
Minneapolis.	51.67	164,738	300	25	4	80	3	33	15.5	23	206	200,000	...

Omaha.....	24.50	139,526	508	52	41	66	10	20	20.7	26	683,565	23,000
Rochester.....	15.60	138,327	240	72	72	50	30	...	15.4	15	141,803	20,611
St. Paul.....	51.42	133,156	970	40	325	60	4	17	19.0	21	757,902	37,584
Indianapolis.....	10.07	107,445	400	234	16	75	59	17	39.7	56	275,000	50,000
New Haven.....	13.97	85,981	140	32	...	60	23	20	10.0	11	136,416	4,500
Worcester.....	33.60	84,536	195	195	...	50	100	33	5.8	6	140,011	7,000
Toledo.....	19.72	82,652	438	60	220	66	14	20	22.2	28	327,902	8,137
Lowell.....	11.15	77,605	105	19	1	50	18	19	9.4	9	98,712	...
Nashville.....	8.44	76,309	251	147	...	50	59	33	29.7	28	130,000	...
Fall River.....	10.95	74,351	106	2	79	50	2	9	9.7	9	66,500	...
Cambridge.....	5.83	69,837	79	23	...	50	29	17	13.7	12	45,000	25,000
Trenton.....	3.95	58,488	100	7	50	60	7	20	25.3	28	10,000	1,800
Camden.....	4.34	58,274	100	31	20	60	31	25	23.0	25	22,000	11,000
Lynn.....	10.64	55,684	125	82	30	50	66	17	11.7	11	445	10,000
Hartford.....	14.66	53,182	130	80	50	70	62	13	8.9	11	409	5,633
Evansville.....	4.42	50,674	136	33	52	70	24	33	30.8	41	373	76,806
Los Angeles.....	27.00	50,394	800	83	76	60	10	17	28.9	33	...	...
Lawrence(Mass.)	6.67	44,559	82	75	...	50	91	17	12.3	12	33,209	3,000
Hoboken.....	1.47	43,561	30	17	3	58	57	25	20.4	22	1,452	2,000
Dallas.....	7.68	34,140	529	25	66	60	5	10	69.0	78	72	...
Sioux City.....	30.90	37,862	340	14	75	80	4	17	11.0	17	758,157	6,000
Portland, Me.....	2.51	36,608	56	9	43	50	16	17	22.3	21	58,000	...
Holyoke.....	3.98	35,528	50	50	...	60	100	17	12.6	14	18,000	...
Binghamton.....	10.04	35,093	80	4	70	50	5	9	8.0	76	15,000	1,000
Duluth.....	3.23	32,725	224	35	20	66	16	25	69.3	87	496,642	5,000
Elmira.....	4.45	28,070	90	43	5	55	46	25	20.2	21	312	2,000
Joliet.....	.37	27,407	98	44	...	65	45	17	26.5	32	12,388	1,500
Taunton.....	6.80	26,327	150	5	115	60	3	20	22.0	25	32,000	...
Canton.....	13.63	25,389	200	170	20	40	85	14	14.7	11	36,000	...
Davenport.....	4.41	25,161	140	26	79	70	19	17	31.7	40	30,000	5,000
La Crosse.....	8.19	25,053	125	15	110	66	12	25	15.3	18	20,378	...
Newport, Ky.....	1.20	24,938	30	27	3	66	90	40	25.0	31	15,000	4,000
Rockford.....	6.37	25,589	120	31	50	66	26	8	18.8	25	1,200	2,000

POPULATION OF THE UNITED STATES AT EACH CENSUS, FROM 1860 TO,
AND INCLUDING, 1900.

STATES AND TERRITORIES.	1900	1890.	1880.	1870.	1860.
Alabama.....	18	1,828,697	1,513,017	1,262,505	964,201
Arkansas.....	25	1,311,564	1,125,179	802,525	435,450
California.....	21	1,485,053	1,208,130	864,694	379,994
Colorado.....	31	539,700	412,198	194,327	34,277
Connecticut.....	29	908,355	746,258	622,700	460,147
Delaware.....	43	184,735	168,493	146,608	112,216
Florida.....	32	528,542	311,422	269,493	140,424
Georgia.....	11	2,216,331	1,837,353	1,542,180	1,057,286
Idaho.....	42	161,772	84,385	.....	.....
Illinois.....	3	4,821,550	3,826,351	3,077,871	1,711,951
Indiana.....	8	2,516,463	2,192,404	1,978,301	1,350,428
Iowa.....	15	2,23,1853	1,911,896	1,624,615	674,913
Kansas.....	22	1,470,495	1,427,046	996,096	107,206
Kentucky.....	12	2,147,174	1,858,635	1,648,690	1,155,684
Louisiana.....	23	1,381,625	1,118,587	939,946	708,002
Maine.....	30	694,466	661,086	648,936	628,279
Maryland.....	26	1,190,050	1,042,390	934,943	687,049
Massachusetts.....	7	2,805,346	2,238,943	1,783,085	1,231,066
Michigan.....	9	2,420,982	2,093,889	1,636,937	749,113
Minnesota.....	19	1,751,394	1,301,826	780,773	172,073
Mississippi.....	20	1,551,270	1,289,600	1,131,597	791,305
Missouri.....	5	3,106,665	2,679,184	2,168,380	1,182,012
Montana.....	41	243,329	132,159	.....	.....
Nebraska.....	27	1,068,539	1,058,910	452,402	28,841
Nevada.....	45	42,335	4,761	62,266	6,857
New Hampshire.....	36	411,588	376,530	346,991	326,073
New Jersey.....	16	1,883,669	1,444,933	1,131,116	672,035
New York.....	1	7,268,012	5,997,853	5,082,871	3,890,735
North Carolina.....	15	1,893,810	1,617,947	1,399,750	992,622
North Dakota.....	39	319,146	182,719	.....	.....

Ohio.....	4	4,157,545	4	3,672,316	3	3,198,062	3	2,665,260	3	2,339,511
Oregon.....	35	413,536	38	313,767	36	174,768	36	90,923	34	52,465
Pennsylvania.....	2	6,302,115	2	5,258,014	2	4,282,891	2	3,521,951	2	2,906,215
Rhode Island.....	34	428,556	35	345,503	33	276,531	32	217,353	29	174,620
South Carolina.....	24	1,340,316	23	1,767,518	21	995,577	22	705,603	18	703,708
South Dakota.....	37	401,570	37	1,151,149	...	...	...	...	...	...
Tennessee.....	14	2,020,616	13	2,235,523	12	1,542,359	9	1,258,520	10	1,109,801
Texas.....	6	3,048,710	7	332,422	11	1,591,749	19	818,579	23	604,215
Utah.....	40	276,749	2	207,905	2	143,963	3	86,786	3	30,273
Vermont.....	38	343,641	36	332,422	32	332,286	30	330,551	28	315,098
Virginia.....	17	1,854,184	15	1,655,980	14	1,512,565	10	1,225,163	5	1,596,318
Washington.....	33	518,103	34	349,390	...	...	...	...	...	...
West Virginia.....	28	958,809	28	762,794	29	618,457	27	442,014	...	...
Wisconsin.....	13	2,069,042	14	1,686,880	16	1,315,497	15	1,054,670	15	775,881
Wyoming.....	44	92,531	43	60,705	...	...	...	...	...	...
Alaska.....	7	63,441	...	...	...	...	...	...	...	...
Arizona.....	6	122,931	...	59,620	...	40,440	...	9,658	...	...
District of Columbia...	3	278,718	...	230,392	...	177,624	...	130,700	...	75,080
Hawaii.....	5	154,001	...	...	...	...	...	...	...	...
Indian Territory.....	2	391,960	...	...	...	119,565	...	...	...	...
New Mexico.....	4	195,310	...	153,593	...	...	...	91,874	...	93,516
Oklahoma.....	1	398,245	...	61,834	...	...	...	...	...	...
Total for Territories.	...	1,604,606	...	404,439	...	127,629	...	131,232	...	168,586
Total for States.....	...	74,610,523	...	61,895,308	...	49,513,303	...	36,242,191	...	30,548,333
The United States.....	...	76,304,799	...	62,622,240	...	50,158,788	...	38,558,371	...	31,443,321
Per cent of gain.....	21.	24	8	30	8	22	65	35	11	...

NOTE—The narrow column under census year shows the order of the States and Territories when arranged according to magnitude of population.

EXPLOSIVE POWER OF LIQUID AIR.

In 1898, it was shown that cotton waste, when soaked with liquid air and fired with a match, developed an explosive power greater than that of gun cotton. and small pieces of copper pipe and steel bicycle tubing were shown in which cotton so treated had been placed without packing. Both were split and torn as if they had been simply pasteboard. As to the practical use of liquid air, many startling propositions are already attracting capital. Its intense cold (its temperature being about 591 deg. below zero, Centi.) will make it an unexcelled refrigerating agent. It may be an important power-developer, as water poured into a tea-kettle three parts full of the liquid causes an evolution of power apparently as great as would be given off by a pot of boiling water. It is also proved that metals treated with liquid air offer no resistance to electricity, and thus by treating dynamos accordingly, their power can be enormously increased.

PROVISIONING A SHIP.

The food needed for a twenty-days' trip of an ocean greyhound, from Bombay to London, with about 550 passengers on board consists of: Eggs, 32,000; meat, 23,000 pounds; vegetables, 8,200 pounds; potatoes, 9 tons; ducks, 1,200; game and poultry, 1,400 head; fish, 11, pounds; flour, 33 barrels.

POINTS OF LAW.

(By a Supreme Court Lawyer.)

The advice on matters in the follow pages has been acquired at a great expense, and is absolutely correct. It can be relied upon as such.

Lawyers' fees can be saved, and much annoyance and expense avoided by acting on the advice given here.*

NEGOTIABLE INSTRUMENTS.

Introduction.—The laws governing mercantile transactions, and particularly such as relate to negotiable instruments, are, in the main, of very ancient origin, and are derived for the most part from the well established usages of merchants, which have been adopted, sanctioned and confirmed by the courts, and in many instances

redeclared by statute. These usages and customs constitute what is called, in the language of the books, the law-merchant.

Promissory Notes.—A note of hand, as it is called, is a written promise to pay to a person certain, his order, or bearer, at a specified time, a given sum of money. To render it negotiable, that is, so that it may be transferred by endorsement or delivery, it must be payable to "order" or "bearer," and unless these words appear it will not be negotiable. Further, the promise must be absolute and uncoupled with any condition, and the time of payment must be certain and not dependent upon any contingency. Again, the promise must be for a definite sum and must be payable in money. These are all of the essence of negotiability. Failing in any of the foregoing particulars, the note may still be good as a contract, but it will not be a negotiable instrument.

It may be written upon anything capable of receiving written characters, in any language susceptible of translation, and with any substance that will leave a permanent mark; hence a note written in pencil is just as valid as one written with ink. It need not be dated, for delivery gives it effect, although a date is customary and proper, and when no time is specified it is payable on demand. It need not be signed at the bottom, provided the name of the maker elsewhere appears and was written with intent to bind, as: "I, John Smith, promise," etc., but the better way is to subscribe the note.

The payee must be named or designated, unless the note is drawn to bearer, and if drawn to the maker's own order possesses no validity until he has indorsed it. A note payable to bearer is transferable by simple delivery and passes from hand to hand without anything further, and the same is true of a note payable to the payee's order after he has indorsed it. In such a case any holder may write over such indorsement an order to pay to himself. But if indorsed in full, that is to pay to some person certain, it can only be transferred by the subsequent indorsement of such designated person.

It is customary to write notes for "value received," but this is not necessary, for a negotiable note imports a consideration, and, except as between the parties want

of consideration cannot be shown if the note was negotiated in good faith and before maturity, while as between the parties consideration may always be disproved, even though expressed. The better practice, however, is to write them as expressing consideration.

One who places his name on the back of a note as an indorser thereby enters into an undertaking with his assignee, as well as others into whose hands the note may come, that he will pay it if the maker does not; but he may protect himself against the claims of subsequent indorsers by making his indorsement "without recourse." On the other hand, a party, by simply receiving and passing a note while under a blank indorsement, and without putting his name to it, assumes no responsibility in relation to it.

The holder or indorsee of a note has a right of action against every one whose name appears on the same, whether as maker or indorser, but it is his duty to present the note promptly at maturity and demand payment; if payment is refused, he should immediately notify the indorsers, and a failure so to do will, in most cases, discharge the indorser from liability. He should further use all reasonable means to compel payment by the maker before resorting to the indorsers, and the law only excuses him from this duty where at the time of maturity the maker is hopelessly insolvent and a suit against him would be unavailing.

Prior to maturity, any person who takes a note without notice of any defect, and pays therefor a valuable consideration, will be protected against any equities existing in favor of the maker; but one who takes it as a mere volunteer, paying no value therefor, or one who receives it after it has become due, even though in good faith, and for value, will take it subject to all its infirmities, and any defense that would have been availing as against the payee may be interposed as to them.

Due Bills are not distinguishable in general effect from promissory notes, and are governed by the same rules and assignable in the same manner.

Certificates of Deposit are, in effect, promissory notes, and subject to the same rules and principles applicable to that class of paper.

Warehouse Receipts are not technically negotiable, but and in the place of the property itself; the delivery of the receipts has the same effect, in transferring the title to the property, as the delivery of the property itself. They are, however, frequently declared negotiable paper by statute.

Drafts.—The draft, or bill of exchange, is the oldest form of negotiable paper, and is said to have existed as early as the first century. Drafts are governed by the same general rules as notes, and all the remarks of the foregoing paragraphs concerning negotiability are equally applicable here.

It is the duty of the holder of a bill to present it for acceptance without delay, and if it is payable at sight, or at a certain time after sight, no right of action will accrue against any person until it has been so presented. If it be not accepted, when properly presented, or, if accepted, be not paid when due, the further duty devolves on the holder to have it regularly protested by a notary public. This is essential, however, only in case of foreign bills, and is not required for inland exchange or notes. Simple notice in the latter case is sufficient.

Checks.—A check on bank is a species of bill of exchange, but is governed by somewhat different rules from the ordinary bill. It need not be presented for acceptance, for a bank is bound to pay at any time if it have funds of the drawer on deposit; nor is it material that the holder delay presentment for payment. A check should, however, be presented immediately; this the drawer has a right to expect, and the delay is at the holder's risk, for if the bank fails in the meantime, the loss falls on him, if the drawer had funds on deposit sufficient to have paid the check had it been timely presented.

Certifying a check practically amounts to an acceptance and binds the bank as an acceptor.

Checks should be drawn to order to guard against loss and theft, and at the same time it acts as a receipt of the payee. A check is not a payment until it has been cashed.

In paying a forged check the loss falls on the bank, which is bound to know the signature of its own depositors, and, in like manner, if the check has been fraudulently raised, the drawer is chargeable only with the original amount.

INNS AND INN-KEEPERS.

An Inn is a public house for the lodging and entertainment of travelers for compensation, and the person who conducts such house is called an inn-keeper. To enable him to obtain his compensation the law invests an inn-keeper with peculiar privileges, giving him a lien upon the personal property brought into the inn by the guest, and on the other hand holds him to a strict degree of responsibility to the guest if the goods are lost or stolen.

The essential character of an inn is, that it is open for all who may desire to visit it ; hence, a mere private boarding-house, or lodging-house, cannot, in any proper sense, be regarded as an inn; nor will a coffee-house or restaurant come within the term. A person who entertains travelers occasionally, although he may receive compensation, is not an inn-keeper, nor liable as such, provided he does not hold himself out in that character.

An Inn-keeper is bound to receive all travelers and wayfaring persons who may apply to him, and to provide entertainment for them, if he can accommodate them, unless they are drunk, or disorderly, or afflicted with contagious diseases. If a person be disorderly he may not only refuse to receive him, but even after he has received him may eject him from the house.

He is further bound to exercise a high degree of care over the person and property of his guests, and is held to a strict responsibility for all loss or damage which may occur through his negligence. This responsibility extends not only to his own acts, and the acts of his servants, but also to the acts of his other guests. The liability of an inn-keeper commences from the time the goods are brought into the inn or delivered to any of the inn-keeper's servants; and a delivery into the personal custody of the inn-keeper is not necessary in order to make him responsible. He is not liable for what are termed the acts of God, or the public enemy; nor for property destroyed without his negligence by accidental fire; and, generally, the inn-keeper will be exonerated if the negligence of the guest occasion the loss in such a way that the loss would not have happened if the guest had used the ordinary care that a prudent man may be reasonably expected to have taken under the circumstances.

The strict liability of an inn-keeper has been much modified by statute, particularly in regard to money and valuables, and where the inn-keeper provides, in the office or some other convenient place in the hotel, an iron safe for the keeping of money, jewels, etc., and notifies his guests of that fact, and the guest neglects to avail himself of the opportunity thus afforded, the inn-keeper will not be liable for the losses sustained by the guest by theft or otherwise.

A guest, in the restricted and legal sense of that term, is the only person who is entitled to the privileges of protection, and to entitle him to this he must have the character of a traveler, a mere sojourner or temporary lodger, in distinction from one who engages for a fixed period, and at a certain agreed rate; but if a party is in fact a wayfarer, and his visit is only transient, it matters not how long he remains, provided he retains this character. Thus, regular boarders by the week or month are not guests, nor are they entitled to the privileges of guests; and on the other hand, in the absence of an enabling statute, the landlord is not, as to them, an inn-keeper, and as such entitled to a lien on their effects for his compensation.

COMMON CARRIERS.

Generally.—A common carrier is one who undertakes for hire to transport the persons or goods of such as choose to employ him, from one point to another, and who does this as a business. The law compels him to take the goods or persons of all who may apply and to make due transport of them; it gives him a lien on such goods or on the baggage of passengers for his compensation, but at the same time holds him liable for all loss or injury, even though occurring without any fault or neglect on his part. Included under this head are dray and truckmen, hackmen, stage coach, railway and steamboat companies, and indeed all who hold themselves out as transporters, either of persons or goods, whether by land or water.

Carriers of Passengers.—A carrier of passengers is bound to receive all who apply; to treat all alike; to provide proper carriages and not to overload them; to

stop at proper intervals for rest or food; to carry his passengers over the whole route contracted for, and to exercise the utmost care in protecting them from peril while on the journey. Failing in any of these particulars he is responsible, not only to the extent of the actual damage caused thereby, but frequently for pain and injury to the feelings.

In the sale of a ticket for transportation the foregoing is the implied agreement on the part of the carrier, and the passenger on the other hand accepts such ticket and contracts for passage subject to the reasonable regulations of the company.

A carrier of passengers is liable for any loss or damage to the baggage of his passengers, but only to the extent of what may reasonably and naturally be carried as baggage. This would not include large sums of money, nor merchandise, and, as a rule, damages in this respect are limited to such articles of necessity and personal convenience as are usually carried by travelers. Nor will the carrier be liable for any baggage not delivered to him or his servants; and hence, if the passenger keeps his baggage about his person, or in his own hands, or within his sight and immediate control, he assumes the risk of loss, and the carrier will not be held liable unless himself in fault.

Carriers of Goods.—A common carrier is an insurer of the safe transportation and delivery of all property intrusted to him for carriage, except as against such losses as are caused by the immediate act of God or the public enemy, and this liability continues until the goods have arrived at their destination and for a reasonable time after they are unloaded. But after safe delivery in the freight depot of the carrier and a reasonable time has elapsed for their removal, and particularly if notice of their arrival has been given to the consignee, the liability of the carrier as such ceases, and he will hold the property as a warehouseman only. In this latter event he will be bound to no more than ordinary care.

The acts of God are held to extend only to such inevitable accidents as occur without the intervention of man's agency. Hence, the carrier is not responsible for losses occurring from natural causes, such as frost, fermenta-

tion, evaporation or natural decay of perishable articles, nor for the natural and necessary wear in the course of transportation, provided he exercises all reasonable care to have the loss or deterioration as little as practicable.

Carriers, both by land and water, are bound to take the goods of all who offer, and if they refuse, without just excuse, are liable to an action; yet they may restrict their business within such limits as they may deem expedient, and are not bound to accept goods out of the usual line of their business. They may also qualify their responsibility by notice brought to the knowledge of the shipper and assented to by him, but cannot even then excuse gross negligence on their part.

Warehousemen are persons who receive goods and merchandise to be stored for hire, and is the character sustained by a carrier after the goods have reached their destination. A warehouseman is bound to use ordinary care in preserving such goods and merchandise, and his neglect so to do will render him liable for any damage that may accrue. His liability commences as soon as the goods arrive at the warehouse.

Sleeping Cars.—Though sleeping cars are, comparatively, a modern invention, their wide use and general adoption by the public has already created quite a voluminous mass of law upon the subject, and the rights, both of the companies and the public, have become tolerably well defined. The service of the railway companies and of the sleeping car companies, though rendered in connection, are entirely separate and distinct. The business of the former is to furnish transportation, of the latter to provide accommodations that travelers may sleep, and in so doing they deal only with persons who are provided with tickets entitling them to transportation by the railway company over whose lines they operate.

The sleeping car companies are not common carriers, like the railway companies, nor are they subject to the duties or responsibilities of carriers, nor can they be considered as inn-keepers, though performing many of their offices. They are not, therefore, insurers of the safety of all property taken into the car by one who has purchased the use of a berth. They are, however, bound to

afford protection to a sleeping passenger, and to exercise a reasonable care that he does not suffer loss. The faithful performance of this undertaking is the limit of their duty in this respect. They must keep a watch during the night to see that no unauthorized persons intrude themselves into the car, and take reasonable care to prevent thefts by the occupants; failing in this, they are liable for neglect.

The measure of their liability is limited to the value of such articles as are usually and ordinarily carried for comfort and convenience: the small articles usually carried in the hand, the clothing and personal ornaments of the passenger, and a reasonable sum of money for traveling expenses.

The nature of the employment of the sleeping car companies is public, and in this respect is the same as a common carrier or inn-keeper. They must treat all persons with fairness, and without unjust discrimination. Where there are berths not engaged, it is their duty to furnish them to unobjectionable applicants on tender of the customary price.

The passenger, when he is assigned a berth, impliedly agrees to conduct himself in a quiet and orderly manner, to take good care of the berth while in his possession, and surrender the same at the end of his journey in as good condition as when assigned to him, necessary wear excepted. The company, on the other hand, impliedly agrees that it will use ordinary and proper means to preserve order in the car during the journey, and especially during the sleeping hours; that it will furnish such conveniences as are necessary to the health and comfort of the passenger and permit him to quietly and peaceably occupy the berth engaged by him during the journey.

THE LAW OF THE ROAD.

General Principles.—To prevent collisions, and to secure the safety and convenience of travelers meeting and passing each other upon the highway, a code of rules has been adopted which constitutes what is called the law of the road. These rules, originally established by custom, have, in many instances, been re-enacted and declared by statute, and are of general and uniform observance in all

parts of the United States. In general, they apply to private ways, as well as public roads, and, indeed, extend to all places appropriated, either by law or in fact, for the purposes of travel.

The fundamental rule, applicable alike to all who use a traveled way, is, that every person must exercise reasonable care, adapted to the place and circumstances, to prevent collision and avoid accidents, and to this all other rules are subsidiary. No one will be entitled to redress for an injury sustained on the highway where his own negligence contributed to such injury, nor will the fact that a fellow-traveler fails to observe the law in the use of the road absolve another who is in the right from the duty of exercising ordinary care to avoid injury to himself or to prevent injury to the party who is in the wrong. At the same time, a person lawfully using a public highway has a right to assume that a fellow-traveler will observe the law and exercise ordinary care and prudence, and to govern his own conduct in determining his use of the road accordingly. This assumption he may rely on, not to justify carelessness on his own part, but to warrant him in pursuing his business in a convenient manner.

Vehicles.—It is a primary rule that vehicles meeting on a highway must bear or keep to the right. This, however, applies only to passing vehicles, for a person having before him the entire road free from carriages or other obstructions, and having no notice of any carriage behind him, is at liberty to travel upon any part of the way as suits his convenience or pleasure, and no blame can be imputed to him. But while a traveler may well occupy any part of the road if no other is using any portion of it, he must, upon all occasions of the meeting of another, reasonably turn to the right; and in all cases of a crowded condition of a thoroughfare must keep to the right of the center or traveled part of the way. A driver may, indeed, pass on the left side of the road, or across it, for the purpose of stopping at a house, a store, or other object on that side; but he must not interfere or obstruct another lawfully passing on that side; and if he does, he acts at his peril, and must answer for the consequences of his violation of duty. In such case he must pass before or wait until the person on that side of the way has passed on.

Where ~~two~~ drivers are moving in the same direction, the one in advance is entitled to the road, provided he does not obstruct it, and is not bound to turn out for the other if there is room for the latter to pass on either side ; if, however, there is not sufficient room to pass, the foremost traveler should yield an equal share of the road, on request made, if that is practicable. If it is not practicable, then they must defer passing until they reach more favorable grounds. If the leading traveler then refuses to comply with the request to permit the other to pass him, he will be answerable for such refusal. Ordinarily, when a driver attempts to pass another on a public road, he does so at his peril, and will be held responsible for all damages which he causes to the one whom he attempts to pass, and whose right to the proper use of the road is as great as his, unless the latter is guilty of such recklessness, or even gross carelessness, as would bring disaster upon himself.

The rule requiring persons meeting upon the highway to keep to the right is not imperative, however, and where a driver cannot safely turn to the right on meeting another vehicle, the law will absolve him from negligence in not attempting impossibilities ; but where it is not practicable to pass to the right, either of the travelers should stop a reasonable time until the other passes ; nor will the rule apply in the winter season, when the depth of snow renders it difficult or impossible to ascertain where the center of the road is. In such cases the center of the road is the beaten or traveled track, without reference to the worked part of the road. Again, the rule does not apply when one vehicle is passing along one street and another is passing into said street from a cross street.

A traveler is bound to keep his harness and carriage in good condition, and is liable for any damage that may result from a failure to do so ; he must not drive at an immoderate rate of speed, and must yield the road to a heavier or loaded vehicle.

Equestrians are not governed by the same stringent rules that apply to drivers of vehicles, and usually all that is required of them is to exercise prudent care under the existing circumstances. They need not turn out in any particular direction on meeting another horseman or a

vehicle, but in crowded thoroughfares must keep to the proper side in passing, and must yield the traveled part of the road to a wagon.

Pedestrians have a right to use the carriage-way as well as the sidewalk, and drivers must exercise reasonable care to avoid injuring them, but a foot-passenger in crossing the street of a city has no prior right of way over a passing vehicle; both are bound to act with prudence to avoid an accident, and it is as much the duty of the pedestrian to look out for passing vehicles as it is for the driver to see that he does not run over any one; nor does the rule requiring vehicles to keep to the right apply to carriages and foot-passengers, for, as regards a foot-passenger, a carriage may go on either side.

LANDLORD AND TENANT.

The relation of landlord and tenant exists by virtue of a contract for the use or occupation of lands or tenements, either for a definite period, for life, or at will. It is usually created by express contract, but its existence will be implied by law whenever there is an ownership of land on the one hand and an occupation of it by permission on the other. In every such case it will be presumed that the occupant intends to compensate the owner for such use. While the relation may be inferred from a variety of circumstances, the most obvious acknowledgment is the payment of rent. If a tenant under an express contract hold over after the termination of his term, the landlord may consider him as a tenant, and, indeed, is so understood, unless he takes some steps to eject him. If the landlord receives rent from him, or by any other act admits the tenancy, a new leasing begins, and can only be terminated by a proper notice to quit.

The rights and obligations of the parties are usually considered as having commenced from the date of the lease, if there be one, and no other time has been designated as the commencement of the tenancy, or, if there be no date from the delivery of the papers, and if there be no writings, from the time the tenant entered into possession.

The Landlord is bound to protect the possession of

his tenant, and to defend him against every one asserting a paramount right. Nor can the landlord do any act himself calculated to disturb the enjoyment of the tenant. He must, unless otherwise agreed, pay all taxes and assessments on the property, and all other charges of his own creation; and if the tenant, in order to protect himself in the enjoyment of the land, is compelled to make a payment which should have been made by the landlord, he may call upon his landlord to reimburse him, or deduct the amount from the rent.

The landlord has no right of possession during the continuance of the lease, nor indeed any substantial rights in the property further than such as may be necessary to protect his reversionary interests. He may go upon the premises peaceably and during reasonable hours, for the purpose of viewing same and ascertaining whether any waste or injury has been committed, and may make such repairs as are necessary to prevent waste; but he is under no obligation to make any repairs, nor does he guarantee that the premises are reasonably fit for the purposes for which they were taken. Nor can the tenant make any repairs at the expense of the landlord in the absence of a special agreement.

The tenant is entitled to all the rights incident to possession, and to the use of all the privileges appendant to the land, and, on the other hand, is personally liable for any misuse of same, or any nuisance or obstruction he may erect. He must use the premises in such a manner that no substantial injury shall be done them, and that they may revert to the landlord at the end of the term unimpaired by any negligent or willful conduct on his part. He must keep the premises in fair repair at his own expense, but is not bound to rebuild structures which have accidentally become ruinous during his occupation; nor is he answerable for incidental wear and tear, nor accidental fire, or flood.

He must further punctually pay the rent reserved, or if none have been specifically reserved, then such reasonable compensation as the premises are fairly worth. In the absence of special agreement he must pay only for the time he has had the beneficial enjoyment, but if he has agreed to pay for an entire term, as a rule nothing short

of an eviction will excuse him from such payment. If he is evicted by a third person, or if the landlord annoys him by the erection of a nuisance, or renders the premises untenable, or makes his occupation so uncomfortable as to justify his removal, he will be discharged from the payment of rent.

The rights and liabilities of the relation are not confined to the immediate parties, but attach to all persons to whom the estate is transferred, or who may succeed to the possession of the premises. A landlord may not violate his tenant's rights by a sale of the property, nor can the tenant avoid his responsibility by assigning his term. The purchaser of the property becomes, in one case, the landlord, with all his rights and remedies, while in the other the assignee of the tenant assumes all the responsibilities of the latter, but the original lessee is not thereby discharged from his obligations.

The tenancy may be terminated in a variety of ways. If for a definite time, or conditioned on the happening of a certain event, it expires by its own limitation, and usually, when depending upon the express conditions of a lease, no notice to quit is necessary. If from year to year, or at will, a notice is always necessary. This must be in writing, and explicitly require the tenant to surrender up the premises. It must be served upon the tenant and afford the statutory notice in regard to time. A breach of any of the covenants of the lease will forfeit the tenant's rights, and when a tenancy has been terminated, by whatever cause, the landlord's right to re-enter becomes absolute.

The largest bell in the world is the great bell of Moscow, at the foot of the Kremlin. Its circumference at the bottom is nearly 68 feet, and its height more than 21 feet. In its stoutest part it is 23 inches thick, and its weight has been computed to be 443,772 lbs. It has never been hung, and was probably cast on the spot where it now stands. A piece of the bell is broken off. The fracture is supposed to have been occasioned by water having been thrown upon it when heated by the building erected over it being on fire.

LO! THE POOR INDIAN!

The total Indian population of the United States, exclusive of Alaska, but including 32,567 counted in the general census, being the taxed or taxable Indians, numbers 249,273. The following table gives the division of the Indians in detail:

Indians on Reservations or at Schools, under Control of the Indian Office (not taxed or taxable)..... 133,382
Indians Incidentally under the Indian Office, and Self-supporting:

The Five Civilized Tribes, Indians and Colored:

	CIVILIZED TRIBES.	COLORED.	TOTAL.
Cherokee Indians....	25,357	4,242	29,599
Chickasaw Indians ..	3,464	3,718	7,182
Choctaw Indians	9,996	4,401	14,397
Creek Indians.....	9,291	5,341	14,632
Seminole Indians....	2,539	22	2,561
			68,371
Deduct number of colored persons probably not members of tribes (estimated).....			3,500
			64,871
Indians other than Chickasaws in that Nation.....			1,161
Indians other than Choctaws in that Nation.....			257
Population of the Five Civilized Tribes:			
Indians.....			52,065
Colored Indian Citizens and Claimants ..			14,224
			66,289
Total.....			66,289
Pueblos of New Mexico.....			8,278
Six Nations, Saint Regis, and other Indians of New York			5,304
Eastern Cherokees of North Carolina.....			2,885
Indians Taxed or Taxable, and Self-sustaining Citizens, counted in the General Census (98 per cent not on reservations).....			32,567
Indians under Control of the War Department, Prisoners of War (Apaches at Mount Vernon Barracks)....			384
Indians in State or Territorial Prisons.....			184
			249,273
Total.....			249,273

HIGHER EDUCATION.

There are, in the United States (1892):

415 Universities and Colleges of Liberal Arts;
7,918 Instructors are employed by them;
118,581 Students attending them.
\$8,635,385 is the value of their Scientific Apparatus.
\$64,259,344, the value of Grounds and Buildings;
\$10,801,918, their total yearly Income.

FULL STRENGTH OF OUR NAVY.

The United States navy, which means all vessels now constructed, or under construction, or authorized to be constructed, will be in the following strength:

	Displacement	Speed
Illinois, battleship.....	11,525	16.00
Alabama, battleship.....	11,525	16.00
Wisconsin, battleship.....	11,525	16.00
Indiana, battleship.....	10,288	15.55
Massachusetts, battleship.....	10,288	16.15
Oregon, battleship.....	10,288	16.78
Kearsarge, battleship.....	11,525	16.00
Kentucky, battleship.....	11,525	16.00
Iowa, battleship.....	11,410	16.00
Texas, battleship.....	6,315	17.00
Three battleships.....	12,000	16.00
Atlanta, protected cruiser.....	3,000	15.60
Atlanta, protected cruiser.....	3,720	18.00
Boston, protected cruiser.....	3,000	15.60
Chicago, protected cruiser.....	4,500	15.10
Baltimore, protected cruiser.....	4,413	20.90
Philadelphia, protected cruiser.....	4,324	19.68
San Francisco, protected cruiser.....	4,098	19.53
Olympia, protected cruiser.....	5,870	21.78
Cincinnati, protected cruiser.....	3,213	19.00
Raleigh, protected cruiser.....	3,213	19.00
Columbia, protected cruiser.....	7,375	22.80
Minneapolis, protected cruiser.....	7,375	23.07
New Orleans, protected cruiser.....	3,600	21.00
Albany, protected cruiser.....	3,600	21.00
New York, armored cruiser.....	8,200	21.00
Brooklyn, armored cruiser.....	9,271	21.07
Newark, protected cruiser.....	4,098	19.00
Detroit, cruiser.....	2,089	18.71
Marblehead, cruiser.....	2,089	18.44
Montgomery, cruiser.....	2,089	19.05
Topeka, cruiser.....	1,800	16.00
Petrel, gunboat.....	892	11.80
Yorktown, gunboat.....	1,710	16.14
Bennington, gunboat.....	1,710	17.50
Concord, gunboat.....	1,710	16.80
Castine, gunboat.....	1,177	16.03
Machias, gunboat.....	1,177	15.50
Helena, gunboat.....	1,392	16.00
Nashville, gunboat.....	1,392	16.00
Wilmington, gunboat.....	1,392	16.00
Annapolis, gunboat.....	1,000	13.17
Marietta, gunboat.....	1,000	13.03
Newport, gunboat.....	1,000	12.29
Princeton, gunboat.....	1,000	12.00
Vicksburg, gunboat.....	1,000	12.71
Wheeling, gunboat.....	1,000	12.88
Vesuvius, dynamite cruiser.....	929	21.42
Cushing, torpedo.....	105	22.50
Eriesson, torpedo.....	120	24.00
Plunger, torpedo.....	168	8.00
Nos. 3, 4 and 5, torpedo.....	142	24.50

STRENGTH OF OUR NAVY—Cont'd.		Displacement	Speed
Nos. 6, 7 and 8, torpedo.....		190	28.50
Nos. 9 and 10, torpedo.....		146	30.50
No. 11, torpedo.....		273	30.00
Nos. 12, 13 and 14, torpedo.....		132	22.50
Nos. 15 and 16, torpedo.....		46	20.00
Nos. 17 and 18, torpedo.....		65	20.00
Nos. 22 to 33, torpedo.....		150	27.00
Manley, torpedo.....		46	17.00
Monterey, monitor.....		4,084	13.60
Katahdin, ram.....		2,155	16.25
No. 19, torpedo destroyer.....		340	30.00
Nos. 20 and 21, torpedo destroyers.....		240	30.00
Nos. 34 to 52.....		400	32.00
Amphitrite, coast defense monitor.....		3,999	10.50
Miantonomah, coast defense monitor.....		3,999	10.50
Monadnock, coast defense monitor.....		3,999	12.00
Terror, coast defense monitor.....		3,999	10.50
Puritan, coast defense monitor.....		6,000	12.40
Stiletto, torpedo.....		31	18.20
Nietheroy, cruiser.....		5,000	19.00
Yorktown, cruiser.....		2,898	14.50
Mayflower, torpedo gunboat.....		1,475	18.80

ORDNANCE ON BOARD SOME OF THE SHIPS.

ILLINOIS—Guns: Four 13-inch, fourteen 6-inch rapid-fire, seventeen 6-pounders, six 1-pounders, one Colt, two field guns, four torpedo tubes. Combined energy of one broadside, 134,568 foot tons per minute.

MASSACHUSETTS—Guns: Four 13-inch, eight 8-inch, four 6-inch, twenty 6-pounders, four 1-pounders, four Gatlings, two field guns, three torpedo tubes. Combined energy of one broadside, 126,202 foot tons per minute.

OREGON—Guns: Four 13-inch, eight 8-inch, four 6-inch, twenty 6-pounders, six 1-pounders, four Gatlings, two field guns, three torpedo tubes. Combined energy of one broadside, 122,310 foot tons per minute.

IOWA—Guns: Four 12-inch, eight 8-inch, six 4-inch, twenty 6-pounders, four 1-pounders, four Colts, two field guns, four torpedo tubes. Combined energy of one broadside, 123,800 foot tons per minute.

NEW YORK—Guns: Six 8-inch, twelve 4-inch, eight 6-pounders, two 1-pounders, four Gatlings, two field guns, two torpedo tubes. Combined energy of one broadside, 105,130 foot tons per minute.

KENTUCKY—Guns: Four 13-inch, four 8-inch, fourteen 5-inch, twenty 6-pounders, six 1-pounders, four Colts, two field guns, four torpedo tubes. Combined energy of one broadside, 134,800 foot tons per minute.

BROOKLYN—Guns: Eight 8-inch, twelve 5-inch, twelve 6-pounders, four 1-pounders, four Colts, two field guns, four torpedo tubes. Combined energy of one broadside, 111,350 foot tons per minute.

TEXAS—Guns: Two 12-inch, six 6-inch, six 1-pounders, four 37-mm. Hotchkiss, two Gatlings, two torpedo tubes. Combined energy of one broadside, 112,600 foot tons per minute.

CHICAGO—Guns: Four 8-inch, fourteen 5-inch, six 6-pounders, two 1-pounders, two Colts, one field gun. Combined energy of one broadside, 97,688 foot tons per minute.

QUALIFICATIONS FOR VOTING IN EACH STATE, OF THE UNION.

STATES.	VOTERS MUST BE MALES, 21 YEARS OLD, AND	PREVIOUS RESIDENCE REQUIRED.		
		State.	County.	Precinct.
Alabama	Citizens or have declared intentions.	1 year...	3 months	1 month.
Arkansas	Citizens or have declared intentions.	1 year...	6 months	1 month.
California	Actual citizens.	1 year...	90 days...	30 days...
Colorado	Citizens or have declared intentions.	6 months	...	...
Connecticut	Actual citizens	1 year...	6 months	6 months
Delaware	Actual county tax-payers.	1 year...	1 month.	...
Florida	United States citizens or have declared intentions.	1 year...	6 months	...
Georgia	Actual citizens	1 year...	6 months	...
Idaho	Citizens or have declared intentions.	6 months	30 days	...
Illinois	Actual citizens.	1 year...	90 days	30 days...
Indiana	Citizens or have declared intentions.	6 months	60 days...	30 days...
Iowa	Actual citizens	6 months	60 days	...
Kansas	Citizens or have declared intentions.	6 months	...	30 days...
Kentucky	Free white male citizens.	2 years	2 years...	60 days...
Louisiana	Citizens or have declared intentions.	1 year...	6 months	30 days...
Maine	Actual citizens.	3 months	...	...
Maryland	Actual citizens	1 year...	6 months	...
Massachusetts	Citizens.	1 year...	...	6 months
Michigan	Citizens or have declared intentions.	3 months	...	10 days...
Minnesota	Citizens or have declared intentions.	4 months	...	10 days...
Mississippi	Actual citizens.	6 months	1 month.	...
Missouri	Citizens or have declared intentions.	1 year...	60 days	...
Montana	Citizens of the United States.	1 year...	30 days	30 days...
Nebraska	Citizens or have declared intentions.	6 months	...	...
Nevada	Citizens or have declared intentions.	6 months	30 days	...
New Hampshire	Actual citizens	...	30 days	...
New Jersey	Actual citizens.	1 year...	5 months	Town 6 m
New York	Actual citizens.	1 year...	4 months	30 days;

QUALIFICATIONS FOR VOTING, ETC.—CONTINUED.

STATES.	VOTERS MUST BE MALES, 21 YEARS OLD, AND	PREVIOUS RESIDENCE REQUIRED.		
		State.	County.	Precinct.
North Carolina.....	Actual citizens.....	12 months...	90 days...	.....
North Dakota.....	Citizens or have declared intentions.....	1 year...	6 months...	90 days...
Ohio.....	Actual citizens.....	1 year...	.....	.....
Oregon.....	Citizens or have declared intentions.....	6 months...	.....	.....
Pennsylvania.....	Actual citizens.....	1 year...	.....	2 months
Rhode Island.....	Actual tax-paying citizens.....	1 year...	.....	Town 6 m.
South Carolina.....	Actual citizens.....	1 year...	60 days...	.....
South Dakota.....	Citizens or have declared intentions.....	6 months...	6 months...	30 days...
Tennessee.....	Actual citizens.....	12 months...	6 months...	.....
Texas.....	Citizens or have declared intentions.....	1 year...	6 months...	6 months
Utah.....	Citizen of the United States, male or female.....	1 year...	4 months...	60 days.
Vermont.....	Actual citizens.....	1 year...	.....	.....
Virginia.....	Actual citizens.....	12 months...	.....	Town 3 m.
Washington.....	Citizens of the United States.....	1 year...	90 days...	30 days...
West Virginia.....	Actual citizens.....	1 year...	60 days...	.....
Wisconsin.....	Citizens or have declared intentions.....	1 year...	.....	.....
Wyoming.....	Citizens or have declared intentions.....	6 months...	30 days...	.....

Women are entitled to full suffrage in Utah and Wyoming Territories. Twenty-nine States and Territories—a majority of the Union—have given women some form of suffrage (school, municipal, etc.)

REGISTRATION.—In California, Connecticut, Illinois, Iowa, Maine, Massachusetts, Michigan, Minnesota, Nebraska, New Hampshire, Rhode Island, Vermont, Virginia and Wisconsin registration is required by law. In Colorado, Florida, Maryland, Mississippi, Nevada, North Carolina, Pennsylvania and South Carolina registration is a constitutional requirement. In Kansas and Missouri registration is required in cities only, in Ohio in the cities of Cincinnati and Cleveland only, and in New York and New Jersey in cities of 10,000 inhabitants and upward. In Alabama, Delaware, Georgia, Indiana, Kentucky, Louisiana and Tennessee no registration is required; and in Arkansas, Texas, and West Virginia it is prohibited by the State Constitution,

INTEREST LAWS AND STATUTES OF LIMITATIONS.

STATES AND TERRITORIES.	INTEREST LAWS.		STATUTES OF LIMITATIONS.		
	Legal Rate. per ct	Rate Allowed by Contract. per ct.	Judgments, Years.	Notes, Years.	Open Accounts, Years.
Alabama.....	8	8	20	6	3
Arkansas.....	6	10	10	5	3
Arizona.....	10	Any rate.	2	3	2
California.....	7	Any rate.	5	4	2
Colorado.....	10	Any rate.	6	6	6
Connecticut.....	6	6	17	17	6
Delaware.....	6	6	21	6	3
District of Columbia...	6	10	12	3	3
Florida.....	8	Any rate.	20	5	3
Georgia.....	7	5	7	7	4
Idaho.....	10	18	6	5	4
Illinois.....	6	8	7	20	5
Indiana.....	6	8	20	10	6
Iowa.....	6	10	20	10	5
Kansas.....	7	12	5	5	3
Kentucky.....	6	10	15	15	2
Louisiana.....	5	8	10	5	3
Maine.....	6	Any rate.	20	6	6
Maryland.....	6	6	12	3	3
Massachusetts.....	6	Any rate.	20	6	6
Michigan.....	7	10	6	6	2
Minnesota.....	7	10	10	6	6
Mississippi.....	6	10	7	6	3
Missouri.....	6	10	5	10	5
Montana.....	10	Any rate.	6	6	2
Nebraska.....	7	10	5	5	5
Nevada.....	10	Any rate.	6	6	4
New Hampshire.....	6	6	20	6	6
New Jersey.....	6	6	20	6	6
New Mexico.....	6	12	15	6	4
New York *.....	6	6	20	6	6
North Carolina.....	6	5	10	3	3
North Dakota.....	7	10	20	6	6
Ohio.....	6	8	5	15	6
Oklahoma.....	7	12			
Oregon.....	8	10	10	6	1
Pennsylvania.....	6	6	5	6	6
Rhode Island.....	6	Any rate.	20	6	6
South Carolina.....	7	Any rate.	10	6	6
South Dakota.....	7	12	20	6	6
Tennessee.....	6	10	10	6	6
Texas.....	8	12	15	4	2
Utah.....	10	Any rate.	5	4	2
Vermont.....	6	6	8	6	6
Virginia.....	6	8	10	5	2
Washington.....	10	Any rate.	6	6	3
West Virginia.....	6	6	10	10	3
Wisconsin.....	7	10	20	6	6
Wyoming.....	12	Any rate.	5	5	4

* New York has, by a recent law, legalized any rate of interest on call loans of \$5,000 or upward, on collateral security.

THE \$10,000 UNITED STATES GOVERNMENT STEEL TEMPERING PROCESS.

The following process and mixtures, patented by Garman and Siegfried, and owned by the Steel Refining and Tempering Co., of Boston, Mass., cost the U. S. Government \$10,000 for the right of using in their shops, and is said to impart extraordinary hardness and durability to the poorest kind of steel. Siegfried's specification reads as follows "I first heat the steel to a cherry red in a clean smith's fire, and then cover the steel with chloride of sodium (common salt), purifying the fire also by throwing in salt. I work the steel in this condition, and while subjected to this treatment, until it is brought into nearly its finished form. I then substitute for the salt a compound composed of the following ingredients, and in about the following proportions: One part by weight of each of the following substances: Chloride of sodium (salt), sulphate of copper, sal-ammoniac, and sal-soda, together with $\frac{1}{2}$ part by weight of pure nitrate of potassa (saltpetre), said ingredients being pulverized and mixed. I alternately heat the steel and treat it by covering with this mixture and hammering it until it is thoroughly refined and brought into its finished form. I then return it to the fire and heat it slowly to a cherry red, and then plunge it into a bath composed of the following ingredients, in substantially the following proportions for the required quantities: Of rain water, 1 gal.; alum, sal-soda, sulphate of copper, of each $1\frac{1}{2}$ ozs.; of nitrate of potassa (saltpetre), 1 oz., and of chloride of sodium (salt), 6 ozs. These quantities and proportions are stated as being what I regard as practically the best, but it is manifest that they may be slightly changed without departing from the principles of my invention."

IMPORTANT ITEMS CONCERNING OCEAN TRAVEL.

NUMBER OF STEAMERS.—There are about 10,000 steamers at present afloat on the various great rivers, seas and oceans.

MAIL STEAMSHIPS.—The Cunard Line has carried the ocean mails since 1840. The earlier steamers of this line, for several years, were all side-wheelers.

A KNOT.—In sailor phrase a knot is a nautical mile, and includes 6,080 feet. By United States surveyors' measure a mile includes 5,280 feet.

FIRST OCEAN PROPELLER.—The method of moving vessels by screw propulsion, was invented by Ericsson, in 1836, and was practically applied on the Great Britain, which made the trip from Liverpool to New York in 14 days, 21 hours, in 1845.

FIRST STEAMER CROSSING OCEAN.—The Savannah, 380 tons, launched at Corlear's Hook, New York, in 1818, was the first vessel using steam to cross the ocean, the journey from Savannah to Liverpool being made in 1819 in 25 days, using steam 18 days.

FOG.—The passenger should not grumble at fog. It should be understood that this dense mist is the method pursued by Nature in taking up moisture from the ocean into the atmosphere to be wafted into clouds thousands of miles inland, to fall upon the earth in refreshing rain.

CROSSING OCEAN—TIME IN 1838.—The Great Western, 750 tons, the largest steamer at that time, made the journey from Bristol, England, to New York in 15 days, April, 1838; brought over 7 passengers; carried back 66 passengers, and made return trip in 14 days. Coal consumed on westward trip, 655 tons; consumed on return trip, 392 tons.

SPEED AND DANGER.—Experience has proved that the greater the speed the greater the safety, rapid sailing vessels being able to escape the area of the fog and storm more quickly than the slow ship. The rapid sailor can be more easily manoeuvred than the slower vessel, and if collision becomes unavoidable, the great impetus of the rapid sailing ship will cause it to cut the opposing vessel in two, with but little damage to itself.

THE GREAT EASTERN.—Designed by Brunel, was begun at Millwall, London, in 1854, and was launched in 1858; was 680 feet long, 83 feet broad, draught of 25 feet; had screw engines of 4,000 horse-power, and paddle engines of 2,600 horse-power. Served in the laying of the Atlantic cable, but was unfitted for ocean use in competition with the more rapid sailing vessels, which made their journeys at less expense. Was sold in 1887 for \$40,000, and was broken up.

Principal Countries of the World—Population, Religion and Government.

COUNTRY.	Population.	Area in Square Miles.	Capital.	Prevailing Religion.	Form of Government.
China (Est.).....	402,680,000..	4,218,401..	Pekin.....	Buddhic.....	Empire
India.....	287,223,431..	1,800,258..	Calcutta.....	Hindoo.....	Empire
Russia (Est.).....	136,000,000..	8,660,395..	St. Petersburg.....	Greek Church.....	Empire
United States.....	76,295,220..	3,602,990..	Washington.....	Protestant.....	Republic
German Empire.....	52,279,901..	211,108..	Berlin.....	Protestant.....	Monarchy
Austria-Hungary.....	41,827,800..	201,591..	Vienna.....	Catholic.....	Monarchy
France.....	38,517,975..	204,177..	Paris.....	Catholic.....	Republic
Japan.....	41,089,940..	147,669..	Tokio.....	Buddhic.....	Empire
Gt. Britain & Ire..	37,888,439..	120,973..	London.....	Protestant.....	Monarchy
Italy.....	29,699,785..	110,665..	Rome.....	Catholic.....	Monarchy
Turkish Empire.....	33,559,787..	1,682,533..	Constantinople.....	Mohammedan.....	Monarchy
Spain.....	17,550,216..	196,173..	Madrid.....	Catholic.....	Monarchy
British America...	6,608,875..	4,282,936..	Ottawa.....	Protestant.....	Monarchy
Brazil (Est.).....	18,000,000..	3,219,000..	Rio Janeiro.....	Catholic.....	Republic
Mexico.....	12,619,944..	767,316..	Mexico City.....	Catholic.....	Republic
Belgium.....	6,030,043..	11,373..	Brussels.....	Catholic.....	Monarchy
Bavaria.....	5,589,382..	29,291..	Munich.....	Catholic.....	Monarchy
Sweden.....	4,784,981..	172,876..	Stockholm.....	Protestant.....	Monarchy
Persia (Est.).....	7,653,600..	636,000..	Teheran.....	Mohammedan.....	Monarchy
Portugal.....	4,708,178..	34,038..	Lisbon.....	Catholic.....	Monarchy
Netherlands.....	4,450,870..	778,187..	The Hague.....	Protestant.....	Monarchy
Columbia.....	4,600,900..	331,420..	Bogota.....	Catholic.....	Republic
Switzerland.....	2,933,334..	15,981..	Berne.....	Protestant.....	Confederation
Peru (Est.).....	3,000,000..	405,040..	Lima.....	Catholic.....	Republic
Australasia.....	4,905,817..	3,172,777..	Melbourne*.....	Protestant.....	Monarchy

Chili.....	3,110,085..	256,860..	Santiago.....	Catholic.....	Republic
Bolivia (Est.).....	2,500,000..	472,000..	Sucre.....	Catholic.....	Republic
Denmark.....	2,172,205..	14,780..	Copenhagen.....	Protestant.....	Monarchy
Wurtemberg.....	2,035,413..	7,531..	Stuttgart.....	Protestant.....	Monarchy
Norway.....	2,000,917..	124,445..	Christiania.....	Protestant.....	Monarchy
Venezuela.....	2,446,816..	566,159..	Caracas.....	Catholic.....	Republic
Argentine.....	4,044,911..	1,095,013..	Buenos Ayres.....	Catholic.....	Republic
Greece.....	2,433,806..	24,977..	Athens.....	Greek Church.....	Monarchy
Baden.....	1,656,810..	5,803..	Karlsruhe.....	Catholic.....	Grand Duchy
Guatemala.....	1,538,632..	46,774..	New Guatemala.....	Catholic.....	Republic
Ecuador (Est.)....	1,300,000..	144,000..	Quito.....	Catholic.....	Republic
Hesse.....	956,170..	2,965..	Darmstadt.....	Protestant.....	Grand Duchy
Liberia (Est.).....	1,050,000..	14,000..	Monrovia.....	Protestant.....	Republic
Hayti.....	1,211,625..	29,830..	Port au Prince.....	Catholic.....	Republic
Uruguay.....	840,725..	72,112..	Montevideo.....	Catholic.....	Republic
San Salvador (Est.)	800,500..	7,228..	San Salvador.....	Catholic.....	Republic
Nicaragua.....	420,000..	51,660..	Managua.....	Catholic.....	Republic
Honduras (Est.)...	420,000..	42,658..	Tegucigalpa.....	Catholic.....	Republic
San Domingo.....	600,000..	20,296..	San Domingo.....	Catholic.....	Republic
Paraguay (Est.)...	600,000..	145,000..	Asuncion.....	Catholic.....	Republic
Costa Rica.....	309,683..	19,985..	San Jose.....	Catholic.....	Republic
Montenegro.....	245,380..	3,406..	Cettigne.....	Greek Church.....	Monarchy

TO DRAW OUT AN OVAL.

Lay out the dimensions in the form of a cross and put a pin in the end of one of the short arms, now put a pin in each of the long arms a sufficient distance from the end that a string drawn around the three pins shall, when the first pin is removed, reach the end of the long arm; leave the two pins and carry your pencil around inside the string to strike your oval.

QUESTIONS ABOUT SHIPS ANSWERED.

SPEED AND DISTANCE.—The rapidity with which a rapid sailing propelling steamer travels is ascertained by the number of revolutions or movements made per minute in certain portions of the machinery. It is also learned by the dropping of an object attached to a line into the water at the side of the stern of the vessel, which, remaining nearly stationary, allows the operator to know the speed by the number of knots which the line runs out in a certain number of seconds. The drop line, called the log line, contains a small string tied into a knot at a distance of every 47 feet and 3 inches; hence the name "knot."

STEAMSHIP NAMES.—The bow is the extreme forward part of the ship. The stern is the after part. Forward is the fore part of the vessel. Aft is the rear part. Amids-ships is the central part of the vessel. Starboard is the right side of the ship, looking forward. Port, the left side. The Index Guide gives the following description of sails, namely: That the masts are the fore mast, main mast and mizzen mast. The parts of the masts are the fore mast, fore-top mast, fore-top gallant mast, fore-royal mast, and similarly for the other masts; thus, main mast, main-top mast, mizzen-top mast, etc. Booms are round, heavy wooden spars to which the sails are attached—the jib-boom extending from the bowsprit, the flying jib-boom being attached to, but extending beyond, the jib-boom. The main and mizzen booms are attached to the main and mizzen masts, the spanker boom extends aft from the mizzen mast. Yards are strong, horizontal, wooden spars, extending crosswise the ship, to which the sails are attached along, up the masts. The principal sails are the jib and flying jib, long triangular sails extending from the fore mast to the jib-booms, and along the masts upward from the deck to the try-sail, the fore-course or fore-sail, or fore-top sail, fore-top gallant sail, fore-royal sail, fore-sky sail, and similarly for each of the other masts; thus, main try-sail, main sail, main top-sail, mizzen top-sail, etc., and spanker, the stern-most sail, extending from the spanker boom to the gaff. The ensign or ship's colors are attached to the gaff. Shrouds are the ropes used to sustain the masts, and extend from the fore-top to the sides of the ship (the rope ladders). The other ropes, used as supports to the masts, are designated stays, and are named from that part of the mast to which they are attached, as fore-stay, mizzen-stay, fore royal-stay, mizzen-top gallant-stay, etc. The jib-boom, flying jib-boom and several of the sails here mentioned, are not required and are not used on the large modern steamers.

SIZES OF NEWSPAPER SHEETS.

We herewith present a Tabular Statement showing the different sizes of Newspaper Sheets, and the number of columns to each size:

WIDTH OF COLUMN, 13 EMS PICA.		PAPER.	COLUMN RULES.
5	Column Folio.....	20x26	17½ inches
6	“ “	22x31	19½ “
6	“ “ (wide margin).....	22x32	19½ “
7	“ “	24x35	21½ “
7	“ “ (wide margin).....	24x36	21½ “
8	“ “	26x40	23½ “
9	“ “	28x44	26 “
4	“ Quarto.....	22x31	13½ “
4	“ “ (wide margin).....	22x32	13½ “
5	“ “	26x40	17½ “
6	“ “	30x44	19½ “
7	“ “	35x48	21½ “

SIZES OF FLAT PAPER.

Flat Foolscap.....	13x16	Double Demy.....	16x42
Cap.....	14x17	Imperial.....	23x31
Crown.....	15x19	Double Medium.....	23x36
Demy.....	16x21	Double Medium.....	18x46
Folio Post.....	17x22	Elephant.....	23x28
Medium.....	18x23	Colombier.....	23x34
Double Flat Foolscap.....	16x26	Atlas.....	26x33
Royal.....	19x24	Double Royal.....	24x38
Double Cap.....	17x28	Double Elephant.....	27x40
Super Royal.....	20x28	Antiquarian.....	31x53
Double Demy.....	21x32		

AN AMERICAN CIRCUS IN GERMANY.

U. S. Consul Brundage, in a report dated Sept. 21, 1900, describes the effect on the people of Aix-la-Chapelle of an American circus. The bill posting was a revelation in this line of work, both in magnitude and character; the way in which the tents were erected and the ground prepared astonished the people; and when the circus arrived, not a workman went to the factories; the spindles were idle all day. At every performance, the tent was full, and the vague antipathy toward the United States has been turned into respect and awe. Doubtless, if an agent for American goods would follow in the wake of the circus, these would find a ready sale.

SALARIES OF UNITED STATES OFFICERS, PER ANNUM.

PRESIDENT, VICE-PRESIDENT AND CABINET.—President, \$50,000; Vice-President, \$8,000; Cabinet Officers, \$8,000 each.

UNITED STATES SENATORS.—\$5,000, with mileage.

CONGRESS.—Members of Congress, \$5,000, with mileage.

SUPREME COURT.—Chief Justice, \$10,500; Associate Justices, \$10,000.

CIRCUIT COURTS.—Justices of Circuit Courts, \$6,000.

HEADS OF DEPARTMENTS.—Supt. of Bureau of Engraving and Printing, \$4,500; Public Printer, \$4,500; Supt. of Census, \$6,000; Supt. of Naval Observatory, \$5,000; Supt. of the Signal Service, \$4,000; Director of Geological Surveys, \$6,000; Director of the Mint, \$4,500; Commissioner of General Land Office, \$4,000; Commissioner of Pensions, \$5,000; Commissioner of Labor, \$500; Commissioner of Indian Affairs, \$4,000; Commissioner of Education, \$3,000; Commander of Marine Corps, \$3,500; Supt. of Coast and Geodetic Survey, \$6,000.

UNITED STATES TREASURY.—Treasurer, \$6,000; Register of Treasury, \$4,000; Comptroller of Customs, \$4,000.

POST-OFFICE DEPARTMENT, Washington.—Four Assistant Postmaster-Generals, \$4,000; Chief Clerk, \$2,500.

POSTMASTERS.—Postmasters are divided into four classes. First class, \$3,000 to \$4,000 (excepting New York City, which is \$8,000); second class, \$2,000 to \$3,000; third class, \$1,000 to \$2,000; fourth class less than \$1,000. The first three classes are appointed by the President, and confirmed by the Senate; those of fourth class are appointed by the Postmaster-General.

DIPLOMATIC SERVICE.—*Ambassadors* at \$17,500: France, Germany, Great Britain, Mexico, Russia; at \$12,000: Italy. *Ministers Plenipotentiary*: at \$12,000, Austria-Hungary, Brazil, China, Japan and Spain; at \$10,000: Argentine, Belgium, Guatemala, Chili, Nicaragua, Peru, Colombia, Venezuela, Netherlands and Turkey; at \$7,500: Denmark, Hayti, Paraguay and Uruguay, Sweden and Norway, and Switzerland; at \$6,500: Greece; at \$5,000 Bolivia and Ecuador. *Ministers Resident* at \$7,500: Corea and Siam; at \$5,000: Persia; at \$4,000: Liberia. Then four Consuls-Generals at \$6,000; three at \$5,000; six at \$4,000; and eight at \$3,500 to \$2,000; also 72 Consuls at \$1,000 up to \$3,400.

ARMY OFFICERS.—General, \$13,500; Lieut.-General, \$11,000; Major-General, \$7,500; Brigadier-General, \$5,500; Colonel, \$3,500; Lieut.-Colonel, \$3,000; Major, \$2,500; Captain, mounted, \$2,000; Captain, not mounted, \$1,800; Regimental Adjutant, \$1,800; Regimental Quartermaster, \$1,800; 1st Lieutenant, mounted, \$1,600; 1st Lieutenant, not mounted, \$1,500; 2d Lieutenant, mounted, \$1,500; 2d Lieutenant, not mounted, \$1,400; Chaplain, \$1,500.

NAVY OFFICERS.—Admiral, \$13,500; Rear-Admirals, \$6,000; Captains, \$4,500; Commanders, \$3,500; Lieut.-Commanders, \$2,800; Lieutenants, \$2,400; Masters, \$1,800; Ensigns, \$1,200; Midshipmen, \$1,000; Cadet Midshipmen, \$500; Mates, \$900; Medical and Pay Directors and Medical and Pay Inspectors and Chief Engineers, \$4,400; Fleet Surgeons, Fleet Paymasters and Fleet Engineers, \$4,400; Surgeons and Paymasters, \$2,800; Chaplains, \$2,500.

POPULATION OF CITIES IN THE UNITED STATES,

CONTAINING 25,000 INHABITANTS AND OVER, WITH THEIR
POPULATION IN 1900, IN 1890 AND 1880.

CENSUS OF 1900.

	1900.	1890.	1880.
Akron, O.....	42,728	27,601	16,512
Albany, N. Y.....	94,151	94,923	90,758
Allegheny, Pa.....	129,896	105,287	78,682
Allentown, Pa.....	35,416	25,228	18,063
Altoona, Pa.....	38,973	30,337	19,710
Atlanta, Ga.....	89,872	65,533	37,400
Atlantic City, N. J.....	27,838	13,055	5,477
Auburn, N. Y.....	30,345	25,858	21,925
Augusta, Ga.....	39,441	33,300	21,891
Baltimore, Md.....	508,957	434,439	332,312
Bay City, Mich.....	27,628	27,839	20,693
Bayonne, N. J.....	32,722	19,033	9,372
Binghamton, N. Y.....	39,647	35,005	17,317
Birmingham, Ala.....	38,415	26,178	400
Boston, Mass.....	560,892	448,477	362,839
Bridgeport, Conn.....	70,996	48,866	27,643
Brockton, Mass.....	40,063	27,294	13,608
Buffalo, N. Y.....	352,387	255,664	155,134
Butte City, Mont.....	30,470	10,723	3,366
Cambridge, Mass.....	91,886	70,028	52,669
Camden, N. J.....	75,935	58,313	41,659
Canton, O.....	30,667	26,189	12,258
Cedar Rapids, Iowa.....	25,656	18,126	10,104
Charleston, S. C.....	55,807	54,955	49,984
Chattanooga, Tenn.....	32,490	29,100	12,892
Chelsea, Mass.....	34,072	27,909	21,782
Chester, Pa.....	33,988	19,791	14,997
Chicago, Ill.....	1,698,575	1,099,850	503,185
Cincinnati, O.....	325,902	296,908	255,139
Cleveland, O.....	381,768	261,353	160,146
Columbus, O.....	125,560	88,150	51,647
Council Bluffs, Iowa.....	25,802	21,474	18,063
Covington, Ky.....	42,938	37,371	29,720
Dallas, Tex.....	42,638	38,067	10,358
Davenport, Iowa.....	35,254	26,872	21,831
Dayton, O.....	85,333	61,220	38,878
Denver, Colo.....	133,859	106,713	35,629
Des Moines, Iowa.....	62,139	50,093	22,428
Detroit, Mich.....	285,704	205,876	116,340
Dubuque, Iowa.....	36,297	30,311	22,254
Duluth, Minn.....	52,969	33,115	5,415
Easton, Pa.....	25,238	14,481	11,124
E. St. Louis, Ill.....	29,655	15,169	9,185
Elizabeth, N. J.....	52,130	37,764	28,229
Elmira, N. Y.....	35,672	30,893	20,541
Erie, Pa.....	52,733	40,634	27,737

Evansville, Ind.....	59,007	50,756	29,280
Fall River, Mass.	104,863	74,398	48,961
Fitchburg, Mass.....	31,531	22,037	12,429
Fort Wayne, Ind.....	45,115	35,392	26,880
Fort Worth, Tex.....	26,688	23,076	6,663
Galveston, Tex.....	37,789	29,084	22,248
Gloucester, Mass.....	26,121	24,651	19,329
Grand Rapids, Mich.....	87,565	60,278	32,016
Harrisburg, Pa.....	50,167	39,385	30,762
Hartford, Conn.....	79,850	53,230	42,015
Haverhill, Mass.....	37,175	27,412	18,472
Hoboken, N. J.....	69,364	43,648	30,999
Holyoke, Mass.....	45,712	35,637	21,915
Houston, Tex.....	44,633	27,557	16,513
Indianapolis, Ind.....	169,164	105,436	75,056
Jackson, Miss.....	25,180	5,920	5,204
Jacksonville, Fla.....	28,429	17,201	7,650
Jersey City, N. J.....	206,433	163,443	120,722
Johnstown, Pa.....	35,936	21,805	8,380
Joliet, Ill.....	29,353	23,264	11,657
Kansas City, Mo.....	163,752	132,716	55,785
Kansas City, Kans.....	51,418	38,316	3,202
Knoxville, Tenn.....	32,637	22,535	9,693
La Crosse, Wis.....	28,695	25,090	14,505
Lancaster, Pa.....	41,459	32,011	25,769
Lawrence, Mass.....	62,559	54,654	39,151
Lexington, Ky.....	26,369	21,567	16,655
Lincoln, Neb.....	40,169	55,154	13,003
Little Rock, Ark.....	38,307	25,874	13,138
Los Angeles, Cal.....	102,479	50,395	11,183
Louisville, Ky.....	204,731	161,129	123,758
Lowell, Mass.....	94,969	77,096	59,475
Lynn, Mass.....	68,513	55,727	38,274
Malden, Mass.....	33,664	23,031	12,017
Manchester, N. H.....	56,987	44,126	32,630
McKeesport, Pa.....	34,227	20,741	8,212
Memphis, Tenn.....	102,320	64,495	33,592
Milwaukee, Wis.....	285,315	204,268	115,587
Minneapolis, Minn.....	202,718	164,738	46,887
Mobile, Ala.....	38,469	31,076	29,132
Montgomery, Ala.....	30,346	21,883	16,713
Nashville, Tenn.....	80,865	76,168	43,350
Newark, N. J.....	246,070	181,830	136,501
New Bedford, Mass.....	62,442	40,733	26,845
New Britain, Conn.....	25,998	19,007	11,800
Newcastle, Pa.....	28,339	11,600	8,418
New Haven, Conn.....	108,027	81,299	62,882
New Orleans, La.....	287,104	240,039	216,090
Newport, Ky.....	28,301	24,918	20,433
Newton, Mass.....	33,587	21,379	16,995
New York, N. Y.....	3,437,202	1,515,301	1,206,299
Norfolk, Va.....	46,624	34,871	21,966
Oakland, Cal.....	66,960	48,862	34,555
Omaha, Neb.....	102,555	140,452	30,518
Oshkosh, Wis.....	28,284	22,836	15,748
Passaic, N. J.....	27,777	13,028	6,532

Paterson, N. J.....	105,171	78,347	51,031
Pawtucket, R. I.....	39,231	27,633	19,030
Philadelphia, Pa.....	1,293,697	1,046,964	877,170
Pittsburg, Pa.....	321,616	238,617	156,389
Portland, Me.....	50,145	36,425	33,810
Portland, Ore.....	90,426	46,385	17,577
Providence, R. I.....	175,597	132,146	104,857
Pueblo, Col.....	28,157	24,558	3,217
Quincy, Ill.....	36,252	31,494	27,268
Racine, Wis.....	29,102	21,014	16,031
Reading, Pa.....	78,961	58,061	43,278
Richmond, Va.....	85,050	81,388	66,600
Rochester, N. Y.....	162,608	133,896	89,366
Rockford, Ill.....	31,051	23,584	13,129
Sacramento, Cal.....	29,282	26,336	21,420
Saginaw, Mich.....	42,345	46,322	10,525
Salem, Mass.....	35,956	30,801	27,563
Salt Lake City, Utah.....	53,531	44,843	20,768
San Antonio, Tex.....	53,321	37,573	20,550
San Francisco, Cal.....	342,782	298,997	233,959
Savannah, Ga.....	54,244	43,189	30,709
Schenectady, N. Y.....	31,682	19,902	13,655
Scranton, Pa.....	102,026	75,215	45,850
Seattle, Wash.....	80,671	42,837	3,533
Sioux City, Iowa.....	33,111	37,806	7,366
Somerville, Mass.....	61,643	40,152	24,933
South Bend, Ind.....	35,999	21,819	13,280
South Omaha, Neb.....	26,001	8,062	.....
Spokane, Wash.....	36,848	19,922	350
Springfield, Ill.....	34,159	24,963	19,743
Springfield, Mass.....	62,059	44,179	33,340
Springfield, O.....	38,253	31,895	20,730
St. Joseph, Mo.....	102,979	52,234	32,431
St. Louis, Mo.....	575,238	451,770	350,518
St. Paul, Minn.....	163,065	133,156	41,473
Superior, Wis.....	31,691	11,983	655
Syracuse, N. Y.....	108,374	88,143	51,792
Tacoma, Wash.....	37,714	36,006	1,098
Taunton, Mass.....	31,036	25,448	21,213
Terre Haute, Ind.....	36,673	30,217	26,042
Topeka, Kans.....	33,608	31,007	15,452
Toledo, O.....	131,822	81,434	50,137
Trenton, N. J.....	73,307	57,458	29,910
Troy, N. Y.....	60,651	60,956	56,747
Utica, N. Y.....	56,383	44,007	33,914
Waltham, Mass.....	33,481	18,707	11,712
Washington, D. C.....	278,718	188,932	147,293
Waterbury, Conn.....	45,859	28,646	17,806
Wheeling, W. Va.....	38,878	34,552	30,737
Wilkesbarre, Pa.....	51,721	37,718	23,399
Williamsport, Pa.....	28,757	27,132	18,934
Wilmington, Del.....	76,508	61,431	42,478
Woonsocket, R. I.....	28,204	20,830	16,050
Worcester, Mass.....	118,421	84,655	58,291
Yonkers, N. Y.....	47,931	32,033	18,892
York, Pa.....	33,708	20,793	13,940
Youngstown, O.....	44,885	33,220	15,435

Summary of the Above List of 159 Cities with 25,000 Inhabitants or Over.

The percentage of increase in population from 1890 to 1900 was 32.5, as against 49.5 for the same cities in the previous decade. The absolute increase in the population from 1890 to 1900 was 4,839,136, or 82,426 less than the absolute increase from 1880 to 1890, when it was 4,921,562. The 159 cities combined have a population in 1900 of 19,694,625, against 14,855,489 in 1890, and 9,993,927 in 1880. Of these 159 cities, divided into four classes; 19 had 200,000 and over, 19 had 100,000 and under 200,000, 40 had 50,000 and under 100,000, and 81 had 25,000 and under 50,000.

In 1880 there were only 20 cities which contained more than 100,000 inhabitants, but in 1890 this number had increased to 24 and in 1900 to 38.

Manufacturing Increase. 1899--1901.

The activity of American manufacturers is illustrated by the statistics of the imports of manufacturers' materials and exports of manufactured goods. In the eight months ending with August, 1900, imports of raw materials for use in manufacturing amounted to \$200,000,000, against a little over \$100,000,000 in the corresponding months of 1896, and the exports of manufactured goods were \$304,000,000, against \$163,000,000 in the corresponding months of 1896. Thus in both importation of raw materials for use in manufacturing and in exportation of the finished product, the figures of the present year are nearly double those of 1896.

The total imports of the eight months ending September 1900 exceeded by \$93,000,000 the imports of the corresponding months of 1896.

The following table shows the principal exports of manufactures in the eight months of 1896 and 1900, respectively:

	Eight months ended Aug. 31.	
	1886.	1900.
Iron and steel.....	\$20,957,090	\$87,174,389
Oils.....	37,329,246	45,635,660
Copper.....	17,872,807	41,830,330
Leather.....	12,635,358	17,697,762
Cotton manufactures.....	10,782,956	15,263,167
Agricultural implements.....	4,070,772	13,854,774
Chemicals.....	5,889,797	9,188,129
Wood manufactures.....	5,037,265	7,899,857
Scientific implements.....	1,762,855	4,171,561
Paper and mfr. of.....	1,861,868	4,508,766

U. S. CONGRESS.

House of Representatives Reapportionment.

Under the terms of the apportionment bill passed by the House on Jan. 8, 1901, the new, total membership of 386 goes into effect after the 3d day of March, 1903. The Congress elected November, 1900, went into office theoretically on March 4, 1901, and expires by limitation with the conclusion of the 3d day of March, 1903. That, which is the Fifty-seventh Congress, of course, has a membership of 357. The Congress to be chosen under the new apportionment of 386 will be elected in November, 1902, and although the term of office will begin on March 4, 1903, the first regular meeting will be held the first Monday in December following.

The number of 386 is arrived at by taking the ratio of one representative to 194,182. This gives 360 Representatives on an even division, but it leaves four States with no Representatives at all and twenty-two having remainders which are more than one-half of the ratio.

These are added so as to make the total membership 386. This is not the system recommended by the Census office. It is what is known as the compound ratio, which recognizes all majority fractions and which entirely eliminates all the curious paradoxes seen in the Census office method.

The official membership of the House by States under the new apportionment is as follows :

Alabama.....	9	Nebraska.....	6
Arkansas.....	7	Nevada.....	1
California.....	8	New Hampshire.....	2
Colorado.....	3	New Jersey.....	10
Connecticut.....	5	New York.....	37
Delaware.....	1	North Carolina.....	10
Florida.....	3	North Dakota.....	2
Georgia.....	11	Ohio.....	21
Idaho.....	1	Oregon.....	2
Illinois.....	25	Pennsylvania.....	32
Indiana.....	13	Rhode Island.....	2
Iowa.....	11	South Carolina.....	7
Kansas.....	8	South Dakota.....	2
Kentucky.....	11	Tennessee.....	10
Louisiana.....	7	Texas.....	16
Maine.....	4	Utah.....	1
Maryland.....	6	Vermont.....	2
Massachusetts.....	14	Virginia.....	10
Michigan.....	12	Washington.....	3
Minnesota.....	9	West Virginia.....	5
Mississippi.....	8	Wisconsin.....	11
Missouri.....	16	Wyoming.....	1
Montana.....	1		

HAWAII.

Hawaii, or the Sandwich Islands, in the Pacific Ocean, annexed Aug. 12, 1898 to the territory of the United States, were discovered in 1778 by Captain Cook, and united into one kingdom under King Kamehameha I. A constitution was granted to the people by King Kamehameha III, in 1852. On the death of King Kalakua he was succeeded January 20, 1891, by his eldest sister, Liliuokalani.

A disagreement between the Queen and her Cabinet in January 1893, was taken advantage of by white American residents and descendants of American settlers, who formed a Committee of Safety, seized the government, deposed and imprisoned the Queen, and established a provincial government. They were sustained by United States Minister Stevens, who caused the marines from the United States war vessels in the harbor of Honolulu to be landed, ostensibly for the protection of American interests. On July 4, 1894 a republic was proclaimed and a constitution adopted. But the annexation agitation ended as above stated. April 30, 1900, Hawaii was constituted as a regular territory.

The area of the several islands composing the group is as follows: Hawaii, 4,210 square miles; Maui, 760; Oahu, 600; Kauai, 590; Molokai, 270; Lanai, 250; Nilhau, 97; Kahoolawe, 63. Total, 6740 square miles.

At the time of the discovery of the islands by Captain Cook in 1778 the native population was about 200,000. This has steadily decreased, so that at the last census the natives numbered but 31,019, which was less than that of the Japanese and Chinese immigrants settled in the islands. A census taken early in 1897 revealed a total population of 109,020, distributed according to race as follows:

	Males.	Females.	Total.
Hawaiians.....	16,399	14,620	31,019
Part Hawaiians.....	4,249	4,236	8,485
Japanese.....	19,212	5,195	24,407
Chinese.....	19,167	2,449	21,616
Portuguese.....	8,202	6,898	15,100
Americans.....	1,975	1,111	3,086
British.....	1,406	844	2,250

The remainder were German, French, Norwegians, South Sea Islanders, and representatives of other nationalities. The American population was 2.73 of the whole. The official U. S. Census of 1900, declares the total population to be 154,001.

There are 71 miles of railroad and about 250 miles of telegraph in the islands. All forms of religion were tolerated, but nearly all the natives are Christians. Honolulu, the capital, with a population of 39,306 (1900), has most of the local features of an American city.

The production of the islands are sugar, coffee, tropical fruits and rice. We import from foreign countries more than \$200,000,000 of this class of goods annually, and while the quantity produced in Hawaii amounts to less than one-tenth of this sum, it may be materially increased, and our expenditures for this class of articles be, in future, kept within our own borders.

PHILIPPINE ISLANDS.

This large archipelego is lying between the China Sea on the west, and the Pacific Ocean on the east. It was ceded by Spain to the U. S. by the treaty of peace of Paris, Dec. 10, 1898; consideration: \$20,000,000, gold and special trade conditions. The islands number about 2,000. The land area is over 120,000 miles. The island of Luzon, on which the capital city (Manilla) is situated, is the largest of the group. Mindaneos is nearly as large. A conservative estimate of the population is 8,000,000. Racially the inhabitants are principally Malays. The country has been in the possession of Spain since 1565, and the religion introduced by the proprietors has long been that of the natives on the coast, so that the Roman church has been a strong ruling power. There is also a large number of Mahometans.

There is considerable variety in the climate, and for the tropics it is not excessively hot. On the western side of Luzon the hot season is from March to June, May being the hottest month, when the temperature ranges from 80 to 100 degrees. The mean temperature for the month is 84 degrees, 2 degrees above the Summer temperature of New Orleans and 9 degrees above the hottest month in Washington. From October to March is a cool, dry season. There is but one railway in the islands—from Manilla to Dagupin—a distance of 123 miles. It is single-track and well built and has paid more than 10 per cent. per annum to shareholders. The Compania Transatlantica (Manila-Liverpool) maintains a monthly service to Europe; there are four lines of steamers to Hong Kong, and many local lines plying between Manila and the provinces, the largest having twenty-eight steamers of 25,000 tonnage.

There are about 25,000 Europeans resident in the islands, of course, not counting the troops and the Americans recently attracted to Manila. Some 12,000 are established in the capital, Manila. English, Spanish, and German houses are engaged in trade, advancing money to the natives on their crops. Such business methods involve risks, but the profits are immense. The land is fertile. Adaca (manila hemp) is one of the chief sources of wealth. Sugar cane does not give as satisfactory returns. The average production is 175,186.96 tons. The

cultivation of tobacco is one of the most important industries. The native coffee has a fine aroma. Cocoa trees grow in abundance, and the oil is used for lighting houses and streets. The indigo is famous for its superior qualities. Cotton spinning and work in bamboo are among the chief industries. Manila hemp is perennial and requires little cultivation. About a million bales are exported annually, nearly all of it going to England or coming to this country, and our importation of the fibre has been increasing. The tobacco is as well known in Europe and Asia as the tobacco of Cuba is in this country; it is extensively cultivated and its manufacture is the staple business of the capital city. There are also many kinds of fancy woods for furniture, etc., purposes.

In 1891 the Philippines' exports to Spain amounted to \$22,479,000 (\$18,095,595 in United States money). In 1891 the Philippines' imports from Spain amounted to \$17,126,000 (\$13,786,430). The total exports from the Philippine in 1892 consisted of 95,016 tons of hemp; 3,951,060 piculs (553,148,400 pounds) of sugar; 21,223 piculs (2,971,220 pounds) of coffee; 61,459 piculs (8,604,260 pounds) of sampanwood; 5,570 piculs (779,800 pounds) of indigo; 254,428 quintals (56,091,197 pounds) of tobacco leaf; 137,050,000 cigars. The total exports in 1892 were of the value of \$33,479,000 (\$23,803,569). Total value of imports in 1892 were of the value of \$27,0000,000 (\$19,197,000).

PORTO RICO.

A West Indian island over which the flag of the United States was raised on October 18, 1898, and which the Treaty of Paris has finally awarded us, is the most eastern of the Greater Antilles and separated on the east from the island of St. Thomas by a distance of about fifty miles, and from Hayti on the west by the Mona passage, seventy miles wide.

The island is 108 miles from E. to W., and from 37 to 43 miles across; the area 3,600 square miles. The population in special census of 1899 was 953,243, of which 3-5 were white. Most of the population is situated on the lowlands at the sea front. For lack of roads, the interior is accessible only by mule trails and it is covered with vast forests. Forty-seven very considerable rivers have been enumerated; they are short and rapid. The mountains intercept the northeast trade winds blowing from the Atlantic so that the rainfall of the north section is very copious. South of the mountains severe droughts occur and agriculture demands irrigation.

The climate is hot, but the temperature seldom exceeds 97 degrees Fahrenheit in the shade during the hottest hours. At night it sinks to 68 or 69 degrees. The mean

annual average rainfall is 64½ inches. The prevailing diseases are yellow fever, elephantiasis, tetanus, marsh fever and dysentery.

Porto Rico is unusually fertile, and its dominant industries are agriculture and lumbering. There are more than 500 varieties of trees found in the forests, and the plains are full of palm, orange and other trees. The principal crops are sugar, coffee, tobacco, cotton, maize, bananas, rice, pineapples, and many other fruits.

The principal mineral found in Porto Rico are gold, carbonates, and sulphides of copper and magnetic oxide of iron in large quantities. There are salt works at Guanica and Salinac on the south coast, and at Cape Rojo on the west, and these constitute the principal mineral industry in Porto Rico.

There are 137 miles of railway, with 170 miles under construction, and 470 miles of telegraph lines. Submarine cables run from San Juan to St. Thomas and Jamaica.

The capital of Porto Rico is San Juan Bautista, founded by Ponce de Leon. It is situated on the small island of Morro, now connected with the mainland by the San Antonio Bridge. The district of its name contains 27,000 inhabitants. Besides the capital, San Juan, there are some sixty or seventy towns and villages of considerable size in the island. Of these the most important are Ponce and Arecibo, each with a larger population than San Juan (that of Ponce being about 35,000 or 40,000, while that of San Juan is estimated at 25,000); Mayaguez (also larger than the capital) and Aguadilla, on the west coast; Fajardo and Humacao, on the east coast; Guanica and Aroyo, on the south, and Pepino and Cayey, in the interior.

The largest article of export from Porto Rico is coffee, which is over 63 per cent. of the whole. The next largest is sugar, 28 per cent. The other exports are tobacco, honey, molasses, cattle timber, and hides.

The Preachers, Doctors and Lawyers of the Future.

In 1901 there were 23,778 young men in the medical colleges of the United States; less than half as many—11,874—in the law schools, and only about one-third as many—8,261—in the theological seminaries. The four states having the largest number of professional students are New York, Illinois, Pennsylvania and Missouri, as follows :

	Theology.	Law.	Medicine.	Total.
New York.....	978	2,228	2,449	5,665
Illinois.....	1,117	1,279	2,909	5,454
Pennsylvania.....	742	587	2,505	3,834
Missouri.....	567	371	2,212	3,150

U. S. Army and Navy Pensions for 1901--1902.

The pension bill calls for \$145,245,230, of which \$145,245,230, of which \$144,000,000 goes for pensions and the remainder for the expense of paying them. There are now 933,529 pensioners on the roll who receive an average annual pension of \$132.39. During the past year 40,645 claims were allowed and 51,964 new claims were filed. The pension list was never so long as to-day. It has increased about 2,000 names since 1899.

Gold and Silver Production in 500 Years— (1380—1880.)

COUNTRIES.	GOLD.			SILVER.		
	Tons	Value.	Ra- tio.	Tons	Value.	Ra- tio.
Africa.....	740	\$ 520,000,000	7.1	.....	.....	....
Australia.....	1,840	1,290,000,000	17.8	.....	.....	....
Austria.....	460	325,000,000	4.4	7,930	\$ 305,000,000	4.1
Brazil.....	1,040	725,000,000	10.0	.....	.....	....
Germany.....	.....	.....	.....	8,470	325,000,000	4.4
Mexico.....	.....	.....	.....	78,600	3,040,000,000	40.7
Peru, etc.....	.....	.....	.....	72,000	2,770,000,000	37.3
Russia.....	1,235	865,000,000	12.0	3,200	120,000,000	1.7
Spanish Am..	2,220	1,550,000,000	21.5	.....	.....	....
United States	2,042	1,430,000,000	19.7	11,600	445,000,000	6.0
Others.....	778	535,000,000	7.5	11,200	430,000,000	5.8
The World,	10,355	\$7,240,000,000	100.0	193,000	\$7,435,000,000	100.0

The Correct Thing in Correspondence.

To fold and direct a letter neatly, and to put on a stamp evenly, and in the right-hand corner.

To put on as many stamps as the weight of the letter or parcel demands.

To enclose a stamp when writing to a stranger on your own business.

To use postal cards for business communications only.

To write legibly and straight.

To spell correctly.

To write numbers, dates, and proper names with special care and distinctness.

To date a *letter* at the beginning, on the right-hand side, but a *note* at the end on the left-hand.

To give one's full address when writing to a person who does not know it, and from whom an answer is desired.

To sign a letter with the full name, or with the last name and initials.

To write "Rev. and Mrs. J. T. Sawyer," or "Dr. and Mrs. Paul Jones.

15 Rules for Running an Automobile.

I.—GENERAL ROAD RULES.

1. Remember that the front wheel of an auto do not work like those of an ordinary carriage. They turn more sharply, therefore go slowly, or the machine might turn over. Too short a turn is liable to strip the tires.

2. A sudden stop is liable to throw one over the dashboard and to damage the rear tires. A motor vehicle can be stopped far more quickly than a horse vehicle, but it is foolhardy to indulge in high speeds where a violent stop may be necessary.

3. When you meet a timid horse, stop the machine and try to have the horse led quietly up to it.

4. Carry a spare tire. Tools should never be neglected, A steam carriage should have one or two spare gauge glasses.

5. Observe the rules of the road. Don't forget that pedestrians and horse owners are entitled to some rights

II.—RULES FOR AN ELECTRIC CARRIAGE.

6. Watch the current-indicating instruments. Don't discharge the batteries to a voltage of 1.8 volts per cell, as this will damage the battery.

7. If you need to go as far as possible on one charge, run at a moderate speed and avoid stopping and starting frequently.

8. Inspect the batteries frequently, testing the density of the solution in each cell with a hydrometer, and following the maker's directions as to the density to be maintained.

9. Don't reverse the electric motor except in extreme emergency, as it is liable to injure the motor.

III.—RULES FOR A GASOLINE CARRIAGE.

10. Be sure that the igniting apparatus is in order and inspect it whenever in doubt.

11. Be sure that the mixture of gasoline vapor and air is correctly proportioned. A good vaporizer is less liable to get out of order than the igniting apparatus, but nothing but experience will make you master of your particular form of vaporizer.

12. Inspect the machinery often. The mechanism of a gasoline vehicle is more complex than that of the electric or steam vehicle, and it demands some mechanical knowledge of its operator. The oil cups should be kept filled, the pump should be watched, and the nuts, screws, etc., should be looked after.

IV.—RULES FOR A STEAM CARRIAGE.

13. See that your gasoline tank and pipes do not leak. As there is an exposed flame (under the boiler) on all these carriages, any leaking gasoline is liable to take fire and perhaps blow up the tank.

14. Watch the water level in your boiler. If your boiler runs dry while the burner is alight it is ruined.

15. Avoid the use of hard or dirty water in the boiler. Clean rain water is the best. Don't doctor the feed water except under competent advice, as you may do more harm than good.

World's Production of Gold and Silver in 1898.

COUNTRIES.	Gold.		Silver.	
	Oz. fine.	Dollars.	Oz. fine.	Dollars.
United States.....	3,118,398	64,463,000	54,438,000	70,384,500
Mexico	411,187	8,500,000	56,738,000	73,358,200
Canada, Newf'l'd.,	669,445	13,838,700	4,452,333	5,756,500
Africa.....	3,890,704	80,428,000	.....	.....
Australasia.....	3,137,644	64,860,800	12,021,682	15,543,200
Russia	1,231,791	25,463,400	278,492	360,100
Austria-Hungary.	89,954	1,859,500	1,814,294	2,345,700
German.....	3,561	73,600	5,571,516	7,203,600
Norway.....	.....	.....	173,321	224,100
Sweden.....	4,044	83,600	65,345	84,500
Italy	8,027	165,900	804,512	1,040,200
Spain	*1,833	37,900	*5,957,965	7,703,200
Greece.....	.....	.....	981,356	1,268,800
Turkey	†353	7,300	†225,225	291,200
France .....	.....	.....	*542,913	701,900
Great Britain.....	321	6,600	211,347	273,300
Argentina	6,661	*137,700	383,479	*495,800
Bolivia	16,617	*343,500	8,204,568	*10,607,900
Chile	16,482	*340,700	2,591,998	*3,351,300
Colombia.....	109,483	2,263,200	5,483,717	7,090,100
Brazil.....	76,613	1,583,700	.....	.....
Venezuela	*51,151	1,057,400	.....	.....
Guiana (British)..	99,105	2,048,700	.....	.....
Guiana (Dutch)...	27,532	569,100	.....	.....
Guiana (French)..	79,547	1,644,400	.....	.....
Peru.....	*30,380	628,000	1,951,240	*2,522,800
Central America..	22,917	473,700	716,008	925,700
Japan	38,253	790,800	1,659,856	2,146,100
China.....	294,059	6,078,700	.....	.....
Korea.....	*49,350	1,020,200	.....	.....
India (British)	376,431	7,781,500	.....	.....
East Indies (Brit.)	31,973	660,900	.....	.....

Fine oz. of gold, \$20.671834-; of silver, \$1.292929-; coining rate in U. S. silver dollars. *1897. †1896.

The London "Statist" estimates the production of the Transvaal gold mines from 1897 to 1898 inclusive at \$382,440,240.

The Railway Mileage of Europe

Has increased from 83,680 miles in 1875 to 167,439 miles in 1899. The increase has been the largest in Russia, amounting to no less than 15,142 miles; then comes Germany, 14,666 miles; and France with 12,990 miles; while England has added only 5,089 miles.

Standard Table Showing Velocity and Force of Winds.

Description.	Mi. per Hour.	Feet per Minute.	Feet per Second.	Force in lbs. per Sq. Foot.
Just perceptible.....	2	.176	2.93	.000
	3	.264	4.4	.044
Gentle breeze.....	4	.352	5.87	.079
	5	.440	7.33	.123
Pleasant breeze.....	10	.880	14.67	.492
	15	1.320	22.0	1.107
Brisk wind.....	20	1.760	29.3	1.968
	25	2.200	36.6	3.075
High wind.....	30	2.640	44.0	4.428
	35	3.080	51.3	6.027
Very high wind.....	40	3.520	58.6	7.872
	45	3.960	66.0	9.963
Storm.....	50	4.400	73.3	12.300
	60	5.280	88.0	17.712
Great storm.....	70	6.160	102.7	24.108
	80	7.040	117.3	31.488
Hurricane.....	100	8.800	146.6	49.200

THE MURDERER.

(AN UNPUBLISHED POEM BY EDGAR ALLEN POE.)

Ye glittering stars! how fair ye shine to-night,
 And O, thou beauteous moon! thy fairy light
 Is peeping thro' those iron bars so near me.
 How silent is the night—how clear and bright!
 I nothing hear, nor aught there is to hear me
 Shunned by all, as if the world did fear me;
 Alone in chains! Ah, me! the cursed spell
 That brought me here. Heaven could not cheer me
 Within these walls—within this dark cold cell,
 This gloomy, dreary, solitary hell.

And thou, so slow, O Time! so passing slow;
 Keeping my soul in bondage, in this woe
 So torturing—this uncontrollable pain;
 Was I to blame? I was they say. Then so
 Be it. Will this deep, sanguinary stain
 Of my dark crime forever haunt my brain?
 Must I live here and never, never hear
 The sweetness of a friendly voice again?
 Must I this torture feel year after year?
 Live, die in hell, and Paradise so near?

Am I dead to Thee, O Christ? Thou who sought
 The prisoner in his lonely cell; taught
 Him to feel the enchantment of Thy love—
 Am I dead to Thee? Canst Thou not be brought
 By prayer from Thy celestial throne above
 Into this darkened cell? Dost Thou, too, reprove

My soul? Thou, too, doom it to endless misery
 Am I so hardened that I cannot move
 The divine, forgiving love in Thee?
 Canst Thou be Christ and have no love for me?

What! lost am I? ne'er will I feel the bliss
 Of heaven? Ne'er feel the joys above this
 World of sin? What! never? Is my destiny
 Hell? Into that dark, fathomless abyss
 Of sin and crime? Into that misery
 Eternal? Into that unquenchable sea
 Of fire? Is there my future—is it there?
 Ah! It comes before my eyes. See! see! Ye
 Infernal fiends! Why come ye here. How dare
 Ye come? Away! mock me not with your stare!

Away ye fiends! Why at me now? Am I
 Not hardened yet? Am I not fit for hell? Why
 Test me again? O horrors, hear the groans
 Of tortured victims! Ah! see them lie
 Bleeding and in chains! Hear the mocking moans
 Of the madden'd demons, in deep, wild tones!
 See them hurl their victims into the hot mire!
 Now see the devils dance! What! are they stones?
 Have they no hearts, no love, no kind desire?
 Fearfully reveling 'midst Jehovah's fire!

Cries, cries! horrible cries assail my ears!
 I see her! My murdered victim now appears
 Before me! Hear her pleading for mercy;
 Ah! see her stare, with eyes swollen with tears:
 Horrors! see her white arms outstretched to me
 Begging for life! O woe! O misery!
 Take me demons! take me out of this cell;
 Satan, I'm thine! Hear, hear, I call on thee;
 Torture me—rack me with the pains of hell;
 Do what thou wilt, but break this madd'ning spell.

Listen! What's that? My soul, they come, they come!
 The demons come to take thee to thy home!
 See, see! No, no! O heavens! What brought this
 Pale skelton here! Speak! speak! What! dumb?
 And hast thou naught to say? What is thy office?
 Away fiend! What! move not for me! What is
 Thy want? Speak, devil, speak! Come, come, unsheath
 Thy tongue. Com'st thou from the dark abyss
 Of sin? Hold, hold! I know thee—my breath!
 Ha! ha! I know thee now—'tis Death! 'tis Death!

VALUABLE FORMULAS.

HOW TO CLEANSE BRUSHES.—The best method of cleansing watchmakers' and jewelers' brushes is to wash them out in a strong soda water. When the backs are wood, you must favor that part as much as possible; for being glued, the water may injure them.

HOW TO WRITE INSCRIPTIONS ON METALS.—Take $\frac{1}{2}$ lb. of nitric acid and 1 oz. of muriatic acid. Mix, shake well together, and it is ready for use. Cover the place you wish to mark with melted beeswax; when cold, write your inscription plainly in the wax clear to the metal with a sharp instrument; then apply the mixed acids with a feather, carefully filing each letter. Let it remain from 1 to 20 minutes, according to appearance desired; then throw on water, which stops the process and removes the wax.

RULES FOR ACCIDENTS ON WATER.—When upset in a boat or thrown into the water and unable to swim, draw the breath in well; keep the mouth shut tight; do not struggle and throw the arms up, but yield quietly to the water; hold the head well up, and stretch out the hands only below the water; to throw the hands or feet up will pitch the body below the water and cause the whole person to go down immediately. Keep the head above and everything else under water.

Every one should learn to swim; no animal, aquatic fowl, or reptile, requires to be taught this, for they do it naturally. Few persons exist who have not some time or other seen a bullfrog perform his movements in the water, and it would detract from no one's dignity to take a few lessons from him. In learning, the beginner might sustain himself by a plank, a block of wood, an attachment composed of cork, an inflated bladder, a flying kite, or a stout cord attached to a long rod held by an assistant on land. Learn to swim, cost what it will.

TRICHINA is the term applied to a minute, slender and transparent worm, scarcely 1-20th of an inch in length, which has recently been discovered to exist naturally in the muscles of swine, and is frequently transferred to the human stomach when pork is used as food. Enough of these filthy parasites have been detected in a half pound of pork to engender 30,000,000 more, the females being very prolific, each giving birth to from 60 to 100 young, and dying soon after. The young thread-like worm at first ranges freely through the stomach and intestines, remaining for a short time within the lining membrane of the intestines, causing irritation, diarrhea, and sometimes death, if present in sufficient numbers. As they become stronger, they begin to penetrate the walls of the intestines in order to effect a lodgment in the voluntary muscles, causing intense muscular pain and severe, enduring cramps, and sometimes tetanic symptoms. After four weeks' migration they encyst themselves permanently on the muscular fibre, and begin to secrete a delicate sac which gradually becomes calcareous. In this torpid state they remain during the person's lifetime.

THE RELATIVE RANK OF OUR LARGEST CITIES.

(Census of 1900.)

In 1880 there was *but one* city, New York, which had a population in excess of a million. In 1900 there were *three*, New York, Chicago and Philadelphia, and there would have been *four* if Brooklyn had not been merged into Greater New York.

In 1880 there were *but twenty* cities, each containing more than 100,000 inhabitants. In 1890 this number had increased to *twenty-eight*, and in 1900 to *thirty-eight*.

The number and relative rank of cities having a population of 100,000 or more at the date of each of these censuses are set forth in the following table:

CITIES BY NAME

RANK.	1900	1890	1880
1	New York, N. Y.	New York, N. Y.	New York, N. Y.
2	Chicago, Ill.	Chicago, Ill.	Philadelphia, Pa.
3	Philadelphia, Pa.	Philadelphia, Pa.	Brooklyn, N. Y.
4	St. Louis, Mo.	Brooklyn, N. Y.	Chicago, Ill.
5	Boston, Mass.	St. Louis, Mo.	Boston, Mass.
6	Baltimore, Md.	Boston, Mass.	St. Louis, Mo.
7	Cleveland, O.	Baltimore, Md.	Baltimore, Md.
8	Buffalo, N. Y.	San Francisco, Cal.	Cincinnati, Ohio.
9	San Francisco, Cal.	Cincinnati, Ohio.	San Francisco, Cal.
10	Cincinnati, O.	Cleveland, O.	New Orleans, La.
11	Pittsburg, Pa.	Buffalo, N. Y.	Cleveland, Ohio.
12	New Orleans, La.	New Orleans, La.	Pittsburg, Pa.
13	Detroit, Mich.	Pittsburg, Pa.	Buffalo, N. Y.
14	Milwaukee, Wis.	Washington, D. C.	Washington, D. C.
15	Washington, D. C.	Detroit, Mich.	Newark, N. J.
16	Newark, N. J.	Milwaukee, Wis.	Louisville, Ky.
17	Jersey City, N. J.	Newark, N. J.	Jersey City, N. J.
18	Louisville, Ky.	Minneapolis, Minn.	Detroit, Mich.
19	Minneapolis, Minn.	Jersey City, N. J.	Milwaukee, Wis.
20	Providence, R. I.	Louisville, Ky.	Providence, R. I.
21	Indianapolis, Ind.	Omaha, Neb.	
22	Kansas City, Mo.	Rochester, N. Y.	
23	St. Paul, Minn.	St. Paul, Minn.	
24	Rochester, N. Y.	Kansas City, Mo.	
25	Denver, Colo.	Providence, R. I.	
26	Toledo, O.	Denver, Colo.	
27	Allegheny, Pa.	Indianapolis, Ind.	
28	Columbus, O.	Allegheny, Pa.	
29	Worcester, Mass.		
30	Syracuse, N. Y.		
31	New Haven, Conn.		
32	Paterson, N. J.		
33	Fall River, Mass.		
34	St. Joseph, Mo.		
35	Omaha, Neb.		
36	Los Angeles, Cal.		
37	Memphis, Tenn.		
38	Scranton, Pa.		

THE NEW COPYRIGHT LAW.

PASSED MARCH 4, 1891.

The author, inventor, designer, or proprietor of any book, map, chart, dramatic or musical composition, engraving, cut, print, or photograph or negative thereof, or of a painting, drawing, chromo, statue, statuary, and of models or designs intended to be perfected as works of the fine arts, and the executors, administrators, or assigns of any such person shall, upon complying with the provisions of this chapter, have the sole liberty of printing, reprinting, publishing, completing, copying, executing, finishing, and vending the same; and in the case of dramatic composition, of publicly performing or representing it or causing it to be performed or represented by others; and authors or their assigns shall have exclusive right to dramatize and translate any of their works for which copyright shall have been obtained under the laws of the United States.

The author, inventor, or designer, if he be still living, or his widow or children, if he be dead, shall have the same exclusive right continued for the further term of fourteen years, upon recording the title of the work or description of the article so secured, a second time, and complying with all other regulations in regard to original copyrights, within six months before the expiration of the first term; and such persons shall, within two months from the date of said renewal, cause a copy of the record thereof to be published in one or more newspapers printed in the United States, for the space of four weeks.

No person shall be entitled to a copyright unless he shall, on or before the day of publication in this or any foreign country, deliver at the office of the Librarian of Congress, or deposit in the mail within the United States, addressed to the Librarian of Congress, at Washington, District of Columbia, a printed copy of the title of the book, map, chart, dramatic or musical composition, engraving, cut, print, photograph, or chromo, or a description of the painting, drawing, statue, statuary, or a model or design for a work of the fine arts for which he desires a copyright, nor unless he shall also, not later than the day of the publication thereof in this or any foreign country, deliver at the office of the Librarian of Congress, at Washington, District of Columbia, or deposit in the mail within the United States, addressed to the Librarian of Congress, at Washington, District of Columbia, two copies of such copyright book, map, chart, dramatic or musical composition, engraving, chromo, cut, print or photograph, or in case of a painting, drawing, statue, statuary, model, or design for a work of the fine arts, a photograph of the same: Provided, that in the

case of a book, photograph, chromo, or lithograph, the two copies of the same required to be delivered or deposited as above shall be printed from type set within the limits of the United States, or from plates made therefrom, or from negatives, or drawings on stone made within the limits of the United States, or from transfers made therefrom. During the existence of such copyright the importation into the United States of any book, chromo, lithograph, or photograph, so copyrighted, or any edition or editions thereof, or any plates of the same not made from type set, negatives or drawings on stone, made within the limits of the United States, shall be, and it is hereby prohibited, except in the cases specified in paragraphs 512 to 260 inclusive, in section 2 of the act entitled "An act to reduce the revenue and equalize the duties on imports and for other purposes," approved Oct. 1, 1890; and except in the case of persons purchasing for use and not for sale, who import, subject to the duty thereon, not more than two copies of such book at any one time, and except in the case of newspapers and magazines not containing, in whole or in part, matter copyrighted under the provisions of this act, unauthorized by the author, which are hereby exempted from prohibition of importation: Provided, nevertheless, that in the case of foreign languages, of which only translations in English are copyrighted, the prohibition of importation shall apply only to the translations of the same, and the importation of the books in the original language shall be permitted.

The Librarian of Congress shall receive from the persons to whom the services designated are rendered, the following fees:

First. For recording the title or description of any copyright book or article, fifty cents.

Second. For every copy under seal of such record actually given to the person claiming the copyright, or his assigns, fifty cents.

Third. For recording and certifying any instrument of writing for the assignment of a copyright, one dollar.

Fourth. For every copy of an assignment, one dollar.

All fees so received shall be paid into the Treasury of the United States: Provided, that the charge for recording the title or description of any article entered for copyright, the production of a person not a citizen or resident of the United States, shall be one dollar, to be paid as above into the Treasury of the United States, to defray the expenses of lists of copyrighted articles as hereinafter provided for.

And it is hereby made the duty of the Librarian of Congress to furnish to the Secretary of the Treasury copies of the entries of titles of all books and other articles wherein the copyright has

been completed by the deposit of two copies of such book printed from type set within the limits of the United States, in accordance with the provisions of this act and by the deposit of two copies of such other article made or produced in the United States; and the Secretary of the Treasury is hereby directed to prepare and print, at intervals of not more than a week, catalogues of such title entries for distribution to the collectors of customs of the United States and to the postmasters of all post-offices receiving foreign mails, and such weekly lists, as they are issued, shall be furnished to all parties desiring them, at a sum not exceeding five dollars per annum; and the Secretary and the Postmaster-General are hereby empowered and required to make and enforce such rules and regulations as shall prevent the importation into the United States, except upon the conditions above specified, of all articles prohibited by this act.

The proprietor of every copyright book or other article shall deliver at the office of the Librarian of Congress, or deposit in the mail, addressed to the Librarian of Congress, at Washington, District of Columbia, a copy of every subsequent edition wherein any substantial changes shall be made: Provided, however, that the alterations, revisions and additions made to books by foreign authors, heretofore published, of which new editions shall appear subsequently to the taking effect of this act, shall be held and deemed capable of being copyrighted as above provided for in this act, unless they form a part of the series in course of publication at the time this act shall take effect.

Section 4963. Every person who shall insert or impress such notice, or words of the same purport, in or upon any book, map, chart, dramatic or musical composition, print, cut, engraving, or photograph, or other article, for which he has not obtained a copyright, shall be liable to a penalty of one hundred dollars, recoverable one-half for the person who shall sue for such penalty and one-half to the use of the United States.

Every person who, after the recording of the title of any book and the depositing of two copies of such book, as provided by this act, shall, contrary to the provisions of this act, within the term limited, and without the consent of the proprietor of the copyright first obtained in writing, signed in presence of two or more witnesses, print, publish, dramatize, translate, or import, or knowing the same to be so printed, published, dramatized, translated, or imported, sell or expose to sale any copy of such book shall forfeit every copy thereof to such proprietor, and shall also forfeit and pay such damages as may be recovered in a civil action by such proprietor in any court of competent jurisdiction.

If any person, after the recording of the title of any map, chart,

dramatic or musical composition, print, cut, engraving, or photograph, or chromo, or of the description of any painting, drawing, statue, statuary, or model or design intended to be perfected and executed as a work of the fine arts, as provided by this act, shall within the term limited, contrary to the provisions of this act, and without the consent of the proprietor of the copyright first obtained in writing, signed in presence of two or more witnesses, engrave, etch, work, copy, print, publish, dramatize, translate, or import, either in whole or in part, or by varying the main design with intent to evade the law, or, knowing the same to be so printed, published, dramatized, translated, or imported, shall sell or expose to sale any copy of such map or other article as aforesaid, he shall forfeit to the proprietor all the plates on which the same shall be copied, and every sheet thereof, either copied or printed, and shall further forfeit one dollar for every sheet of the same found in his possession, either printing, printed, copied, published, imported, or exposed for sale, and in case of a painting, statue, or statuary, he shall forfeit ten dollars for every copy of the same in his possession, or by him sold or exposed for sale; one-half thereof to the proprietor and the other half to the use of the United States.

Every person who shall print or publish any manuscript whatever without the consent of the author or proprietor first obtained, shall be liable to the author or proprietor for all damages occasioned by such injury.

Sec. 11. That for the purpose of this act each volume of a book in two or more volumes, when such volumes are published separately, and the first one shall not have been issued before this act shall take effect, and each number of a periodical, shall be considered an independent publication, subject to the form of copy-righting as above.

Sec. 12. That this act shall go into effect on the first day of July, anno Domini eighteen hundred and ninety-one.

Sec. 13. That this act shall only apply to a citizen or subject of a foreign state or nation when such foreign state or nation permits to citizens of the United States of America the benefit of copyright on substantially the same basis as its own citizens, or when such foreign state or nation is a party to an international agreement which provides for reciprocity in the granting of copyright, by the terms of which agreement the United States of America may, at its pleasure, become a party to such agreement. The existence of either of the conditions aforesaid shall be determined by the President of the United States by proclamation made from time to time as the purposes of this act may require.

“'OSTLER JOE.”

The recitation of the following poem by Mrs. James Brown Potter before a large and cultured audience at Washington, D.C., was the inspiration and starting point of that distinguished lady's career as an actress:

I stood at eve as the sun went down, by a grave where a woman lies,

Who lured men's souls to the shores of sin with the light of her wanton eyes:

Who sang the song that the siren sang on the treacherous Lurley height,

Whose face was as fair as a summer day, and whose heart was as black as night.

Yet a blossom I fain would pluck to-day from the garden above her dust—

Not the languorous lily of soulless sin, nor the blood-red rose of lust.

But a sweet white blossom of holy love that grew in the one green spot

In the arid desert of Phryne's life, where all was parched and hot.

In the summer, when the meadows were aglow with blue and red,

Joe, the 'ostler of the Magpie, and fair Annie Smith were wed.

Plump was Annie, plump and pretty, with a cheek as white as snow;

He was anything but handsome, was the Magpie's 'Ostler Joe.

But he won the winsome lassie. They'd a cottage and a cow

And her matronhood sat lightly on the village beauty's brow.

Sped the months and came a baby—such a blue-eyed baby boy!

Joe was working in the stables when they told him of his joy.

He was rubbing down the horses, and he gave them then and there

All a special feed of clover, just in honor of the heir.

It had been his great ambition, and he told the horses so, That the Fates would send a baby who might bear the name of Joe.

Little Joe the child was christened, and, like babies, grew apace:

He'd his mother's eyes of azure, and his father's honest face.

Swift the happy years went over, years of blue and cloud-
less sky,
Love was Lord of that small cottage, and the tempest
passed them by.

Passed them by for years, then swiftly burst in fury o'er
their home.
Down the lane by Annie's cottage chanced a gentleman to
roam;
Thrice he came and found her sitting by the window with
her child,
And he nodded to the baby, and the baby laughed and
smiled.

So at last it grew to know him—Little Joe was nearly
four;
He would call the "pretty gemplin" as he passed the open
door;
And one day he ran and caught him, and in child's play
pulled him in;
And the baby Joe had prayed for brought about the
mother's sin.

'Twas the same old wretched story, that for ages bards
have sung,
'Twas a woman weak and wanton, and a villian's tempt-
ing tongue;
'Twas a picture deftly painted for a silly creature's eyes
Of the Babylonian wonders, and the joy that in them lies.

Annie listened and was tempted; she was tempted and
she fell,
As the angels fell from heaven to the blackest depths of
hell;
She was promised wealth and splendor, and a life of
guilty sloth,
Yellow gold for child and husband, and the woman left
them both.

Home one eve came Joe the 'Ostler with a cherry cry of
"Wife!"

Finding that which blurred forever all the story of his
life.

She had left a silly letter—through the cruel scrawl he
spelt;

Then he sought the lonely bedroom, joined his hands and
knelt.

"Now, O Lord, O God, forgive her, for she ain't to
blame," he cried;

"For I owt t' a seen her trouble, and 'a gone away and
died.

Why, a wench like her—God bless her!—'twasn't likely as
her'd rest

With her bonny head forever on a 'ostler's ragged vest.

"It was kind o' her to bear me all this long and happy
time;

So, for my sake please to bless her, though you count her
deed a crime.

If so be I don't pray proper, Lord, forgive me; for you
see,

I can talk all right to 'osses, but I'm nervous like with
Thee."

Never a line came to the cottage from the woman who
had flown.

Joe, the baby, died that winter, and the man was left
alone.

Ne'er a bitter word he uttered, but in silence kissed the
rod,

Saving what he told the horses, saving what he told his
God.

Far away in mighty London rose the woman into fame,
For her beauty won men's homage, and she prospered in
her shame;

Quick from lord to lord she flitted, higher still each prize
she won,

And her rival paled beside her as the stars beside the sun.

Next she made the stage her market, and she dragged
Art's temple down.

To the level of a show-place for the outcasts of the town.
And the kisses she had given to poor 'Ostler Joe for

nought
With their gold and costly jewels rich and titled lovers
bought.

Went the years with flying footsteps while the star was
at its height;

Then the darkness came on swiftly, and the gloaming
turned to night.

Shattered strength and faded beauty tore the laurels
from her brow:

Of the thousands who had worshiped never one came near
her now.

Broken down in health and fortune, men forgot her very
name.

'Till the news that she was dying woke the echoes of her
fame;

And the papers in their gossip mentioned how an
"actress" lay

Sick to death in humble lodgings, growing weaker every
day.

One there was who read the story in a far-off country
 place,
And that night the dying woman woke and looked upon
 his face;
Once again the strong arms clasped her that had clasped
 her long ago,
And the weary head lay pillowed on the breast of 'Ostler
 Joe.

All the past had he forgotten, all the sorrow and the
 shame;
He had found her sick and lonely, and his wife he now
 could claim.
Since the grand folks who had known her one and all had
 slunk away,
He could clasp his long-lost darling, and no man can say
 him nay.

In his arms death found her laying, in his arms her spirit
 fled;
And his tears came down in torrents as he knelt beside
 her dead.
Never once his love had faltered through her base unhal-
 lowed life;
And the stone above her ashes bears the honored name
 of wife.

That's the blossom I fain would pluck to-day from the
 garden above her dust;
Not the languorous lily of soulless sin or the blood-red
 rose of lust;
But a sweet, white blossom of holy love that grew in the
 one green spot
In the arid desert of Phryne's life, where all was parched
 and hot.

GEORGE R. SIMS.

VALUABLE SUGGESTIONS TO CLERKS AND WORKINGMEN.—Never
 consider time wasted that is spent in learning rudiments. In
 acquiring a knowledge of any art or handicraft the greatest dif-
 ficulty is experienced at the beginning, because our work then
 possesses little or nothing of interest. Our first lessons in drawing
 or music, or with tools, are very simple; indeed so simple are they
 that we are disposed to undervalue their importance. The tempta-
 tion is to skip a few pages and begin further on in the book. But
 such a course is fatal to success. To learn principles thoroughly
 is to succeed. Be content to learn one thing at a time, whether it
 be to push a plane square and true, or draw a straight line. What-
 ever you learn, learn it absolutely, without possible question.
 This will enable you to advance steadily, step by step, year after
 year, and some day you will wonder why you have been enabled

to distance the geniuses who once seemed so far in advance of you.

Set your heart upon what you have in hand. Valuable knowledge is acquired only by intense devotion. You must give your entire mind to whatever you undertake, otherwise you fail, or succeed indifferently, which is but little better than failure.

Learn, therefore, to estimate properly the value of what is called leisure time. There is entirely too much of this in the world. Do not mistake our meaning. Rest is necessary and play is well in its place, but young men who hope to do something in life must not expect to play one-third of their time.

While you resolve to acquire a thorough knowledge of your art, be equally as anxious to know something beyond it. A craftsman ought to be ashamed of himself who knows nothing but the use of his tools. Having the time to acquire it, be careful to properly estimate the value of knowledge. Remember of what use it will be to you in ten thousand instances as you go along in life, and be as conscientious in learning rudiments here as elsewhere. Learn to spell correctly, to write a good plain hand, and to punctuate your sentences.

Do not dress beyond your means, never spend your last dollar, unless for food to keep yourself or some one else from starving. You will always feel better to keep a little money in your pocket. At the earliest possible opportunity save up a few dollars and place the amount in a savings bank. It will serve as a magnet to attract other money that might be foolishly spent.

Just as soon as you can command the means, buy a piece of ground. Do not wait until you have saved enough to pay all down, but begin by paying one-third or one-quarter. Do not be afraid to go in debt for land, for it increases in value.

SAVE A LITTLE.—Every man who is obliged to work for his living should make a point to lay up a little money for that "rainy day" which we are all liable to encounter when least expected. The best way to do this is to open an account with a savings bank. Accumulated money is always safe; it is always ready to use when needed. Scrape together five dollars, make your deposit, receive your bank book, and then resolve to deposit a given sum, small though it be, once a month, or once a week, according to circumstances. Nobody knows without trying it, how easy a thing it is to save money when an account with a bank has been opened. With such an account a man feels a desire to enlarge his deposit. It gives him lessons in frugality and economy, weans him from habits of extravagance, and is the very best guard in the world against intemperance, dissipation and vice. Refer to page 277 for a table showing the time required by money to double itself when loaned at interest.

SYMBOLIC MEANING OF COLORS.—White was the emblem of light, religious purity, innocence, faith, joy and life. In the judge, it indicates integrity; in the sick, humility; in the woman, chastity.

Red, the ruby, signifies fire, divine love, heat of the creative power, and royalty. White and red roses express love and wisdom. The red color of the blood has its origin in the action of the heart, which corresponds to, or symbolizes love. In a bad sense, red corresponds to the infernal love of evil, hatred, etc.

Blue, or the sapphire, expresses heaven, the firmament, truth from a celestial origin, constancy and fidelity.

Yellow, or gold, is the symbol of the sun, of the goodness of God, of marriage and faithfulness. In a bad sense yellow signifies inconstancy, jealousy and deceit.

Green, the emerald, is the color of the spring, of hope, particularly of the hope of immortality and of victory, as the color of the laurel and palm.

Violet, the amethyst, signifies love and truth, or passion and suffering. Purple and scarlet signify things good and true from a celestial origin.

Black corresponds to despair, darkness, earthliness, mourning, negation, wickedness and death.

DURABILITY OF A HORSE.—A horse will travel 400 yards in $4\frac{1}{2}$ minutes at a walk, 400 yds. in 2 minutes at a trot, and 400 yds. in 1 minute at a gallop. The usual work of a horse is taken at 22,500 lbs. raised 1 foot per minute, for 8 hours per day. A horse will carry 250 lbs. 25 miles per day of 8 hours. An average draught-horse will draw 1,600 lbs. 23 miles per day on a level road, weight of wagon included. The average weight of a horse is 1,000 lbs.; his strength is equal to that of 5 men. In a horse mill moving at 3 feet per second, track 25 feet diameter, he exerts with the machine the power of $4\frac{1}{2}$ horses. The greatest amount a horse can pull in a horizontal line is 900 lbs.; but he can only do this momentarily, in continued exertion, probably half of this is the limit. He attains his growth in 5 years, will live 25, average 16 years. A horse will live 25 days on water, without solid food, 17 days without eating or drinking, but only 5 days on solid food, without drinking.

A cart drawn by horses over an ordinary road will travel 1.1 miles per hour of trip. A 4-horse team will haul from 25 to 36 cubic feet of lime stone at each load. The time expended in loading, unloading, etc., including delays, averages 35 minutes per trip. The cost of loading and unloading a cart, using a horse cram at the quarry, and unloading by hand, when labor is \$1.25 per day, and a horse 75 cents, is 25 cents per perch=24.75 cubic feet. The work done by an animal is greatest when the velocity with which he moves is $\frac{1}{8}$ of the greatest with which he can move when not impeded, and the force then exerted .45 of the utmost force the animal can exert at a dead pull.

COMPARATIVE COST OF FREIGHT BY WATER AND RAIL.—It has been proved by actual test that a single tow-boat can transport at one trip from the Ohio to New Orleans 29,000 tons of coal, loaded in barges. Estimating in this way the boat and its tow, worked by a few men, carries as much freight to its destination as 3,000 cars and 100 locomotives, manned by 600 men, could transport.

COST OF A PENNSYLVANIA RAILROAD PASSENGER CAR.—Detailed cost of constructing one first-class Standard Passenger Car, at the Altoona shops of the Pennsylvania R. R., the total cost being \$4,423.75. The principal items are as follows :

Labor	\$1,263 94	1 Air Brake, complete	131 79
Proportion of Fuel and Stores	28 61	57 Sash Balances	44 61
2,480 feet Poplar	86 80	61 Lights Glasses	65 83
3,434 feet Ash	127 08	2 Stoves	77 56
1,100 feet Pine	20 90	25 Sets Seat Fixtures.	50 50
2,350 feet Yellow Pine.	70 50	3 Bronze Lamps	13 50
500 feet Oak	10 00	2 Bronze Door Locks	15 20
450 feet Hickory	13 50	Butts and Hinges..	15 58
700 feet Mich. Pine..	49 00	13 Basket Racks	77 35
400 feet Cherry	16 00	12 Sash Levers	42 00
439 feet Maple veneer	24 14	61 Bronze Window Lifts	24 40
4 pairs Wheels and Axles	332 85	61 Window Fasteners.	16 47
2 pairs Passenger Car Trucks	533 62	238 Sheets Tin	41 44
13 gallons Varnish..	52 34	273 lbs. Galvanized Iron	25 31
45 lbs. Glue	14 33	96 yards Scarlet Plush	228 87
2,925 lbs. Iron	87 75	44 yards Green Plush.	109 99
792 lbs. Castings	16 99	61 yards Sheeting	10 30
Screws	51 88	243 lbs. Hair	72 95
Gas Regulator and Gauge	25 25	12 Springs	22 96
2 Two-Light Chan- deliers	50 72	12 Spiral Elliptic Springs	20 29
2 Gas Tanks	84 00	1 Head Lining	80 63
		2 packets Gold Leaf.	14 58
		Various small items	261 44

\$4,423.75

TABLE, SHOWING THE NUMBER OF DAYS FROM ANY DAY IN ONE MONTH TO THE SAME DAY IN ANOTHER.

FROM	To	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
January		365	31	59	90	120	151	181	212	243	273	304	334
February		334	365	28	59	89	120	150	181	212	242	273	303
March		306	337	365	31	61	92	122	153	184	214	245	275
April		275	306	334	365	30	61	91	122	153	183	214	244
May		245	276	304	335	365	31	61	92	123	153	184	214
June		214	245	273	304	334	365	30	61	92	122	153	183
July		184	215	243	274	304	335	365	31	62	92	123	153
August		153	184	212	243	273	304	334	365	31	61	92	122
September		122	153	181	212	242	273	303	334	365	30	61	91
October		92	123	151	182	212	243	273	304	335	365	31	61
November		61	92	120	151	181	212	242	273	304	334	365	30
December		31	62	90	121	151	182	212	243	274	304	335	365

EXPLANATION.—To find the number of days from January 20 to Dec. 20, follow the horizontal line opposite January until you reach the column headed by December, when you will find 334, representing the required number of days, and so on with the other months. During leap year, if February enters into the calculation, add one day to the result.

Cost of Articles by the Piece, from 1 to 1 Dozen.

12 cost	\$1 00	\$1 25	\$1 50	\$1 75	\$2 00	\$2 25	\$2 50
11 cost	92	1 15	1 38	1 60	1 83	2 06	2 29
10 cost	83	1 04	1 25	1 46	1 67	1 88	2 08
9 cost	75	94	1 13	1 29	1 50	1 69	1 88
8 cost	67	83	1 00	1 17	1 33	1 50	1 67
7 cost	58	73	88	1 02	1 17	1 31	1 46
6 cost	50	63	75	88	1 00	1 13	1 25
5 cost	42	52	63	73	83	94	1 04
4 cost	33	42	50	56	67	75	83
3 cost	25	31	38	44	50	56	63
2 cost	17	21	25	29	33	38	42
1 cost	8 $\frac{1}{3}$	10 $\frac{1}{2}$	12 $\frac{1}{2}$	14 $\frac{5}{8}$	16 $\frac{2}{3}$	18 $\frac{3}{4}$	21 $\frac{1}{6}$

12 cost	\$2 75	\$3 00	\$3 25	\$3 50	\$3 75	\$4 00	\$4 25
11 cost	2 52	2 75	2 98	3 21	3 44	3 67	3 89
10 cost	2 29	2 50	2 73	2 92	3 13	3 33	3 54
9 cost	2 06	2 25	2 44	2 63	2 81	3 00	3 19
8 cost	1 83	2 00	2 17	2 33	2 56	2 67	2 83
7 cost	1 60	1 75	1 90	2 04	2 19	2 33	2 48
6 cost	1 38	1 50	1 63	1 75	1 88	2 00	2 13
5 cost	1 15	1 25	1 36	1 46	1 56	1 67	1 77
4 cost	92	1 00	1 09	1 17	1 25	1 33	1 42
3 cost	69	75	82	88	94	1 00	1 06
2 cost	46	50	55	58	63	67	71
1 cost	23	25	28	29 $\frac{1}{4}$	31 $\frac{1}{4}$	33 $\frac{1}{3}$	35 $\frac{1}{6}$

12 cost	\$4 50	\$4 75	\$5 00	\$5 25	\$5 50	\$5 75	\$6 00
11 cost	4 13	4 23	4 58	4 81	5 04	5 27	5 50
10 cost	3 75	3 96	4 17	4 38	4 58	4 79	5 00
9 cost	3 38	3 56	3 75	3 94	4 13	4 31	4 50
8 cost	3 00	3 17	3 33	3 50	3 67	3 83	4 00
7 cost	2 63	2 77	2 92	3 06	3 21	3 35	3 50
6 cost	2 25	2 34	2 50	2 63	2 75	2 87	3 00
5 cost	1 88	1 98	2 08	2 19	2 29	2 40	2 50
4 cost	1 50	1 58	1 67	1 75	1 83	1 92	2 00
3 cost	1 13	1 19	1 25	1 31	1 38	1 44	1 50
2 cost	75	79	83	88	92	96	1 00
1 cost	37 $\frac{1}{2}$	39 $\frac{5}{8}$	41 $\frac{2}{3}$	43 $\frac{3}{4}$	46	48	50

12 cost	\$6 25	\$6 50	\$6 75	\$7 00	\$7 25	\$7 50	\$7 76
11 cost	5 73	5 96	6 19	6 42	6 65	6 88	7 11
10 cost	5 25	5 42	5 63	5 83	6 04	6 25	6 46
9 cost	4 69	4 88	5 06	5 25	5 44	5 63	5 81
8 cost	4 17	4 33	4 50	4 67	4 93	5 00	5 17
7 cost	3 65	3 79	3 94	4 08	4 23	4 38	4 52
6 cost	3 13	3 25	3 38	3 50	3 63	3 75	3 88
5 cost	2 60	2 71	2 81	2 92	3 02	3 13	3 23
4 cost	2 08	2 17	2 25	2 33	2 42	2 50	2 58
3 cost	1 56	1 63	1 69	1 75	1 81	1 88	1 94
2 cost	1 94	1 08	1 13	1 17	1 21	1 25	1 29
1 cost	52 $\frac{1}{8}$	54 $\frac{1}{4}$	56 $\frac{1}{4}$	58 $\frac{1}{3}$	60 $\frac{1}{2}$	62 $\frac{1}{2}$	64 $\frac{5}{6}$

VALUES OF FOREIGN COINS.

As Adopted by the United States Treasury Department, October 1, 1900,

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COUNTRY.	STANDARD.	MONETARY UNIT.	VALUE IN U. S. GOLD.	COINS.
Argentina Republic.....	Gold.....	Peso.....	\$0.96.5	Gold—Argentine (\$4.82,4) and ½ Argentine. Silver—Peso and divisions.
Austria-Hungary	Gold	Crown.....	.20.3	Gold (present system)—20 crowns (\$4.05,2) and 10 crowns (\$2.92,6).
Belgium.....	Gold and silver..	Franc.....	.19.3	Gold—10 and 20 francs. Silver—5 francs.
Bolivia.....	Silver.....	Boliviano.....	.45.1	Silver—Boliviano and divisions.
Brazil.....	Gold	Milreis.	.54.6	Gold—5, 10 and 20 milreis. Silver—½, 1 and 2 milreis.
British Possessions, N. Amer.*	Gold	Dollar.....	1.00	
Central American States.....	Silver.....	Peso.....	.45.1	Silver—Peso and divisions.
Chili.....	Gold.....	Peso.....	.36.5	Gold—Escudo (\$1.82,4), doubloon (\$4.56,1), condor (\$9.12,3). Silver—Peso and divisions.
China	Silver.....	Tael.. { Shanghai Haikwan Tientsin..	.66.6 .74.2 .70.7	
Columbia.....	Silver	Peso.....	.45.1	Gold—Condor (\$9.64,7) and double condor. Silver—Peso.
Cuba	Gold.....	Peso.....	.92.6	Gold—Doubloon(\$5.01,7), Alphonse (\$4.82,3). Silver—Peso.
Denmark.....	Gold.....	Crown.....	.26.8	Gold—10 and 20 crowns.
Ecuador.....	Silver.....	Sucre	.45.1	Gold—Condor (\$9.64,7) and double condor. Silver—Sucre and divisions.
Egypt.	Gold	Pound (109 piastres).	4.94.3	Gold—Pound (100 piastres), 50, 20, 10, 5 piastres. Silver—1, 2, 5, 10, 20 piastres.
France.....	Gold and silver..	Franc.....	.19.3	Gold—5, 10, 20, 50 and 100 frs. Silver—5 frs.
German Empire.	Gold	Mark.....	.23.8	Gold=5, 10 and 20 marks.

VALUES OF FOREIGN COINS—CONTINUED.

COUNTRY.	STANDARD.	MONETARY UNIT.	VALUE IN U. S. GOLD.	COINS.
Great Britain....	Gold.....	Pound sterling..	\$4 86.6½	Gold—Sovereign (£ sterling) and ½ sovereign.
Greece.....	Gold.....	Drachma.....	.19.3	Gold—5, 10, 20, 50 and 100 drachms. Silver—5 drachmas.
Hayti.....	Gold and silver..	Gourde.....	.96.5	Silver—Gourde.
India.....	Gold.....	Rupee.....	.32.4	Gold—Sovereign (\$4.86, 55). Silver—Rupee and divisions.
Italy.....	Gold and silver..	Lira.....	.19.3	Gold—5, 10, 20, 50, 100 liras. Silver—5 liras.
Japan.....	Gold.....	Yen.....	.49.8	Gold—5, 10 and 20 yen. Silver—Yen.
Liberia.....	Gold.....	Dollar.....	1.00	
Mexico ..	Silver.....	Dollar.....	.49	Gold—Dollar (\$0.98, 3), 2½, 5, 10, 20 dollars. Silver—Dollar (or peso) and divisions.
Netherlands....	Gold and silver..	Florin.....	.40.2	Gold—10 florins. Silver—½, 1, 2½ florins.
Newfoundland..	Gold.....	Dollar.....	1.01.4	Gold—2 dollars (\$2.02, 7).
Norway.....	Gold.....	Crown.....	.26.8	Gold—10 and 20 crowns.
Peru.....	Silver.....	Sol.....	.48.7	Silver—Sol and divisions.
Portugal.....	Gold.....	Milreis.....	1.08	Gold—1, 2, 5 and 10 milreis.
Russia.....	Gold.....	Rouble.....	.51.5	Gold—Imperial (\$7.71, 8), ½ imperial (\$3.86). Silver—¼, ½ and 1 rouble.
Spain.....	Gold.....	Peseta.....	.19.3	Gold—25 pesetas. Silver—5 pesetas.
Sweden.....	Gold.....	Crown.....	.26.8	Gold—10 and 20 crowns.
Switzerland....	Gold and silver..	Franc.....	.19.3	Gold—5, 10, 20, 50 and 100 francs. Silver—5 francs.
Turkey.....	Gold.....	Piastre.....	.04.4	Gold—25, 50, 100, 250 and 500 piastres.
Venezuela.....	Gold.....	Bolivar.....	.19.3	Gold—5, 10, 20, 50 and 100 bolivars. Silver—5 bolivars.

* Except Newfoundland.
 † Gold the nominal standard, silver practically the standard at 15 rupees to 1 sovereign.

Gold and Silver Produced in the United States.

The following estimate of the gold and silver produced in the United States, since the discovery of gold in California, is compiled from the official reports of the Director of the United States Mint :

Year.	Gold.	Silver.	Total
1849.....	\$40,000,000	\$50,000	\$40,050,000
1850.....	50,000,000	50,000	50,050,000
1851.....	55,000,000	50,000	55,050,000
1852.....	60,000,000	50,000	60,050,000
1853.....	65,000,000	50,000	65,050,000
1854.....	60,000,000	50,000	60,050,000
1855.....	55,000,000	50,000	55,050,000
1856.....	55,000,000	50,000	55,050,000
1857.....	55,000,000	50,000	55,050,000
1858.....	50,000,000	500,000	50,500,000
1859.....	50,000,000	100,000	50,100,000
1860.....	46,000,000	150,000	46,150,000
1861.....	43,000,000	2,000,000	45,000,000
1862.....	39,200,000	4,500,000	43,700,000
1863.....	40,000,000	8,500,000	48,500,000
1864.....	46,100,000	11,000,000	57,100,000
1865.....	53,225,000	11,250,000	64,475,000
1866.....	53,500,000	10,000,000	63,500,000
1867.....	51,725,000	13,500,000	65,225,000
1868.....	48,000,000	12,000,000	60,000,000
1869.....	49,500,000	12,000,000	61,500,000
1870.....	50,000,000	16,000,000	66,000,000
1871.....	43,500,000	23,000,000	66,500,000
1872.....	36,000,000	28,750,000	64,750,000
1873.....	36,000,000	35,750,000	71,750,000
1874.....	33,490,902	37,324,594	70,815,496
1875.....	33,467,856	31,727,560	65,195,416
1876.....	39,429,166	38,783,016	78,212,182
1877.....	46,891,890	39,793,573	86,685,463

GOLD AND SILVER PRODUCED—(Continued)

YEAR.	GOLD.	SILVER.	TOTAL.
1878.....	51,206,360	45,281,385	96,487,745
1879.....	38,899,858	40,812,132	79,711,990
1880.....	36,000,000	38,450,000	74,450,000
1881.....	34,700,000	43,000,000	77,700,000
1882.....	32,500,000	46,800,000	79,300,000
1883.....	30,000,000	46,200,000	76,200,000
1884.....	30,800,000	48,800,000	79,600,000
1885.....	31,800,000	51,600,000	83,400,000
1886.....	35,000,000	51,000,000	86,000,000
1887.....	33,000,000	53,357,000	86,357,000
1888.....	33,167,500	59,206,700	92,374,200
1889.....	32,967,000	64,768,730	97,735,730
1890.....	32,845,000	57,225,000	90,070,000
1891.....	33,175,000	57,630,000	90,815,000
1892.....	33,000,000	55,563,000	90,805,000
1893.....	35,955,000	46,800,000	82,755,000
1894.....	39,500,000	31,422,000	70,922,000
1895.....	46,610,000	36,445,000	83,055,000
1896.....	53,088,000	39,655,000	97,743,000
1897.....	57,363,000	32,316,000	19,679,000
1898.....	63,463,000	32,118,000	96,581,000
1899.....	71,053,000	32,858,000	103,912,000
Total to 1900.	2,204,728,432	1,245,337,420	
Grand Total.	.....	.....	896,337,100

Effect of Incandescent Light on the Eyes.

The medical faculty of the University of Heidelberg (Germany), has made a very interesting report on the effect of incandescent light (gas or electrical) on the eyes. After having carefully weighed all the pros and cons on the question, the verdict is that the incandescent light is not harmful. For lighting large halls or places of entertainment, electricity is especially recommended from hygienic points of view.

Lumber and Log Measurement at Sight.

Showing net proceeds (fractions of feet omitted) of logs in 1 inch boards, deducting saw kerf and slabs. If the required dimension is not in the table, unite two or three suitable numbers together. The length will be found in the left hand column and the diameter in inches on the head of the other columns.

Length, Feet.	Diam. 10	Diam. 11	Diam. 12	Diam. 13	Diam. 14	Diam. 15	Diam. 16	Diam. 17	Diam. 18
10	23	31	40	50	62	75	90	105	122
11	25	34	44	55	69	83	99	116	135
12	27	37	48	61	75	91	108	126	147
13	29	40	52	66	81	98	117	137	159
14	32	43	56	71	88	106	126	148	171
15	34	46	60	76	94	113	135	158	184
16	36	49	64	81	100	121	144	169	196
17	38	52	68	86	106	128	153	179	208
18	41	55	72	91	112	136	162	190	220
19	43	58	76	96	119	143	171	201	232
20	46	61	80	101	125	151	180	211	244
21	48	64	84	106	131	158	189	222	257
22	50	67	88	111	137	166	198	232	269
23	52	70	92	116	144	174	207	243	281
24	54	74	96	122	150	181	216	254	294
25	56	77	100	127	156	189	225	264	308
26	59	80	104	132	163	196	234	274	318
27	61	83	108	137	169	204	243	285	330
28	63	86	112	142	175	212	252	296	342
29	65	89	116	147	182	219	261	306	355
30	68	92	120	152	188	226	270	316	368
31	70	95	124	157	193	234	279	327	380
32	72	98	128	162	200	242	288	338	392
33	74	101	132	169	206	249	297	348	404
34	77	104	136	172	212	256	306	358	416
35	79	107	140	177	219	265	315	369	428
36	81	110	144	182	224	272	324	380	440

LUMBER AND LOG MEASUREMENT—(Cont'd).

Length, Feet.	Diam. 19	Diam. 20	Diam. 21	Diam. 22	Diam. 23	Diam. 24	Diam. 25	Diam. 26	Diam. 27
10	140	160	180	202	225	250	275	302	330
11	154	176	198	223	248	275	302	333	363
12	169	192	217	243	271	300	331	363	397
13	183	208	235	263	293	325	358	393	430
14	197	224	253	283	313	350	386	433	463
15	211	240	271	303	336	375	413	453	496
16	225	256	289	324	359	400	441	484	530
17	239	272	307	344	383	425	468	514	563
18	253	288	325	364	406	450	496	544	596
19	267	304	343	384	429	475	523	574	630
20	280	320	361	404	452	500	550	605	661
21	293	336	379	425	473	525	579	635	693
22	309	352	397	445	496	550	605	665	726
23	323	368	415	465	519	575	632	695	760
24	338	384	433	486	541	600	662	726	794
25	351	400	451	506	562	625	689	756	827
26	366	416	370	526	586	650	716	786	860
27	380	432	488	546	606	675	744	826	893
28	394	448	506	566	626	700	772	866	926
29	408	464	524	586	649	725	799	886	959
30	422	480	542	606	672	750	826	906	992
31	436	496	560	627	695	775	854	937	1026
32	450	512	578	648	718	800	882	968	1060
33	464	528	596	668	742	825	909	998	1093
34	478	544	614	688	766	850	936	1028	1126
35	492	560	632	708	789	875	964	1058	1159
36	506	576	650	728	812	900	992	1088	1192

THE COMMON SCHOOLS OF THE UNITED STATES
(Census of 1890).

Population.....	62,622,250
Enrolled Pupils.....	12,697,196
Average Daily Attendance.....	8,144,938
Average Length of School Term.....	134 days.
Salaries of Superintendents and Teachers.....	\$91,683,338
Total Expenditures for Public Schools.....	\$140,277,484
Percentage of Population Enrolled.....	20.27
Expended Per Capita of Population.....	\$2.24

LUMBER AND LOG MEASUREMENT—(Cont'd).

Length, Feet.	Diam. 28	Diam. 29	Diam. 30	Diam. 31	Diam. 32	Diam. 33	Diam. 34	Diam. 35	Diam. 36
10	360	391	422	456	490	526	562	601	640
11	396	430	465	502	539	578	619	661	704
12	432	469	507	547	588	631	675	721	768
13	468	508	549	592	627	684	731	781	832
14	504	547	561	638	686	736	781	841	896
15	540	586	633	683	735	789	844	901	960
16	576	625	676	729	784	842	900	961	1024
17	612	664	718	774	833	895	956	1021	1088
18	648	703	761	820	882	946	1012	1081	1152
19	684	742	803	865	931	999	1069	1141	1216
20	720	782	845	912	980	1052	1125	1202	1280
21	756	820	887	957	1029	1103	1181	1261	1344
22	792	860	930	1004	1078	1156	1238	1322	1408
23	828	898	972	1049	1127	1209	1295	1381	1471
24	864	938	1014	1094	1176	1262	1350	1442	1536
25	900	977	1056	1139	1225	1315	1406	1501	1600
26	936	1016	1098	1184	1274	1368	1462	1562	1664
27	972	1055	1140	1230	1323	1420	1518	1622	1728
28	1008	1094	1182	1276	1372	1472	1574	1682	1792
29	1044	1133	1224	1321	1421	1525	1631	1742	1856
30	1080	1172	1266	1366	1470	1578	1688	1802	1920
31	1116	1211	1309	1412	1519	1631	1744	1862	1984
32	1152	1250	1352	1458	1568	1684	1800	1922	2048
33	1188	1289	1394	1503	1617	1737	1856	1982	2112
34	1224	1328	1436	1548	1666	1790	1912	2042	2176
35	1260	1367	1479	1594	1715	1841	1968	2102	2240
36	1296	1406	1522	1640	1764	1892	2024	2162	2304

LICK OBSERVATORY.

On Mt. Hamilton, Cal.; founded by James Lick, 1877; had formerly the largest telescope in the world, with a 36-inch lens; a 40-inch lens has been made for Chicago, given by Charles Yerkes. A 50 inch lens has been cast for the gigantic telescope of the Paris Exposition, 1900, which has shown the moon as if only 40 miles away from us.

LUMBER MEASUREMENT TABLE.

Square timber and scantling brought down to 1 inch board measure. *Example:* To find the number of feet in a beam 6x10 and 24 feet in length, consult the table, and opposite 24 and under 6x10 you will find 120, the correct number of feet.

Feet.	DIMENSIONS EACH WAY IN INCHES.								
	2x4	2x5	2x6	2x7	2x8	3x3	3x4	3x5	3x6
6	4.	5.	6.	7.	8.	5.6	6.	7.6	9.
7	4.8	5.10	7.	8.2	9.4	5.3	7.	8.9	10.6
8	5.4	6.8	8	9.4	10.8	6.	8.	10.	12.
9	6.	7.6	9.	10.6	12.	6.9	9.	11.3	13.6
10	6.8	8.4	10.	11.8	13.5	7.6	10.	12.6	15.
11	7.4	9.2	11.	12.10	14.8	8.3	11.	13.9	16.6
12	8.	10.	12.	14	16.	9.	12.	15.	18.
13	8.8	10.10	13	15.2	17.4	9.9	13.	16.3	19.6
14	9.4	11.8	14.	16.4	18.8	10.6	14.	17.6	21.
15	10.	12.6	15	17.6	20.	11.3	15.	18.9	22.6
16	10.8	13.4	16.	18.8	21.4	12.	16.	20.	24.
17	11.4	14.2	17.	19.10	22.8	12.9	17.	21.3	25.6
18	12.	15.	18.	21.	24.	13.6	18.	22.6	27.
19	12.8	15.10	19.	22.2	25.4	14.3	19.	23.9	28.6
20	13.4	16.8	20.	23.4	26.8	15.	20.	25.	30.
21	14.	17.6	21.	24.6	28.	15.9	21.	26.3	31.6
22	14.8	18.4	22.	25.8	29.4	16.6	22.	27.6	33.
23	15.4	19.2	23.	26.10	30.8	17.3	23.	28.9	34.6
24	16.	20.	24.	28.	32.	18.	24.	30.	36.
25	16.8	20.10	25.	29.2	33.4	18.9	25.	31.3	37.6
30	20.	25.	30.	35.	40.	22.6	30.	37.6	45.
34	22.8	28.4	34.	39.3	45.4	25.6	34.	42.6	51.
40	26.8	33.4	40.	46.8	53.4	30.	40.	50.	60.
42	28.	35.	42.	49.	56.	31.6	42.	52.6	63.
44	29.4	36.8	44.	51.4	58.1	33.	44.	55.	66.

LUMBER MEASUREMENT TABLE—(Continued).

Feet.	DIMENSIONS EACH WAY IN INCHES.								
	3x7	3x8	4x4	4x5	4x6	4x7	4x8	4x9	5x5
6....	10.6	12.	8.	10.	12.	14.	16.	18.	12.6
7....	12.3	14.	9.4	11.8	14.	16.4	18.8	21.	14.7
8....	14.	16.	10.	13.4	16.	18.8	21.4	24.	16.8
9....	15.9	18	12.	15.	18.	21.	24.	27.	18.9
10....	17.6	20.	13.4	16.8	20.	23.4	26.8	30.	20.10
11....	19.3	22.	14.8	18.4	22.	25.8	29.4	33.	22.11
12....	21.	24.	16.	20.	24.	28.	32.	36.	25.
13....	22.9	26.	17.4	21.8	26.	30.4	34.8	39.	27.1
14....	24.6	28.	18.8	23.4	28.	32.8	37.4	42.	29.2
15....	26.3	30.	20.0	25.	30.	35.	40.	45.	31.3
16....	28.	32.	21.4	26.8	32.	37.4	42.8	48.	33.4
17....	29.9	34.	22.8	28.4	34.	39.8	45.4	51.	35.5
18....	31.6	36.	24.	30.	36.	42.	48.	54.	37.6
19....	33.3	38.	24.4	31.8	38.	44.4	50.8	57.	39.7
20....	35.	40.	26.8	33.4	40.	46.8	53.4	60.	41.8
21....	36.9	42.	28.	35.	42.	49.	56.	63.	43.9
22....	38.6	44.	29.4	36.8	44.	51.4	58.8	66.	45.10
23....	40.3	46.	30.8	38.4	46.	53.8	61.4	69.	47.11
24....	42.	48.	32.	40.	48.	56.	64.	72.	50.
25....	43.9	50.	33.4	41.8	50.	58.4	66.8	75.	52.1
30....	52.6	60.	40.	50.	60.	70.	80.	90.	62.6
34....	59.6	68.	45.4	58.8	68.	79.4	90.8	102.	70.10
40....	70.	80.	53.	66.8	80.	93.4	106.8	120.	83.4
42....	73.6	84.	56.	70.	84.	98.	112.	126.	87.6
44....	77.	88.	58.8	73.6	88.	102.8	117.4	132.	90.8

First American Coins.—The first coins minted in North America were produced in Mexico in 1535, and the coinage of the colonies that afterward became the United States used the Mexican dollar as the standard of value.

Cholera Remedies.—There are said to be 1,142 patent remedies for cholera in the list at the United States Patent Office.

LUMBER MEASUREMENT TABLE—(Continued).

Feet.	DIMENSIONS EACH WAY IN INCHES.							
	5x6	5x7	5x8	6x6	6x7	6x8	6x9	6x10
6.....	15.	17.6	20.	18.	21.	24.	27.	30
7.....	17.6	20.5	23.4	21.	24.6	28.	31.6	35
8.....	20.	23.4	26.8	24.	28.	32.	36.	40
9.....	22.6	26.3	30.	27.	31.6	36.	40.6	45
10.....	25.	29.2	33.4	30.	35.	40.	45.	50
11.....	27.6	32.1	36.8	33.	38.6	44.	49.6	55
12.....	30.	35.	40.	36.	42.	48.	54.	60
13.....	32.6	37.11	43.4	39.	45.6	52.	58.6	65
14.....	35.	40.10	46.8	42.	49.	56.	63.	70
15.....	37.6	43.9	50.	45.	52.6	60.	67.6	75
16.....	40.	46.8	53.4	48.	56.	64.	72.	80
17.....	42.6	49.7	56.8	51.	59.6	68.	76.6	85
18.....	45.	52.6	60.	54.	63.	72.	81.	90
19.....	47.6	55.5	63.4	57.	66.6	76.	85.6	95
20.....	50.	58.4	66.8	60.	70.	80.	90.	100
21.....	52.6	61.3	70.	63.	73.6	84.	94.6	105
22.....	55.	64.2	73.4	66.	77.	88.	99.	110
23.....	57.6	67.1	76.8	69.	80.6	92.	103.6	115
24.....	60.	70.	80.	72.	84.	96.	108.	120
25.....	62.6	72.11	83.4	75.	87.6	100.	112.6	125
30.....	75.	87.6	100.	90.	105.	120.	135.	150
34.....	85.	99.2	113.4	102.	119.	136.	153.	170
40.....	100.	116.8	133.4	120.	140.	160.	180.	200
42.....	105.	122.6	140.	126.	147.	168.	189.	210
44.....	110.	128.4	146.8	132.	154.	176.	198.	220

The Farmers of America.—In 1860 the farms of the United States were valued at \$9,854,000,000, now they are worth \$200,958,000,000; in 1860 the live stock was valued at \$246,000,000, now it is worth \$550,000,000; in 1860 the farmers owned household furniture to the amount of \$1,089,000,000, now they own \$2,418,000,000 worth; in 1860 the farm implements in use aggregated \$6,345,000,000, now the total is \$13,110,000,000

LUMBER MEASUREMENT AT SIGHT.

ONE INCH BOARD MEASURE.

FOR PLANK, double or treble the product, as may be required. If a board or plank is longer or wider than the dimensions here given, add two suitable numbers together. The left-hand column contains the length in feet; the width in inches heads each column.

FEET LONG.	6 in W	7 in W	8 in W	9 in W	10 in W	11 in W	12 in W
	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.
8...	4 0	4 8	5 4	6 0	6 8	7 4	8 0
9...	4 6	5 3	6 0	6 9	7 6	8 3	9 0
10...	5 0	5 10	6 8	7 6	8 4	9 2	10 0
11...	5 6	6 5	7 4	8 3	9 2	10 1	11 0
12...	6 0	7 0	8 0	9 0	10 0	11 0	12 0
13...	6 6	7 7	8 8	9 9	10 10	11 11	13 0
14...	7 0	8 2	9 4	10 6	11 8	12 10	14 0
15...	7 6	8 9	10 0	11 3	12 6	13 9	15 0
16...	8 0	9 4	10 8	12 0	13 4	14 8	16 0
17...	8 6	9 11	11 4	12 9	14 2	15 7	17 0
18...	9 0	10 6	12 0	13 6	15 0	16 6	18 0
19...	9 6	11 1	12 8	14 3	15 10	17 5	19 0
20...	10 0	11 8	13 4	15 0	16 8	18 4	20 0
21...	10 6	12 3	14 0	15 9	17 6	19 3	21 0
22...	11 0	12 10	14 8	16 6	18 4	20 2	22 0
23...	11 6	13 5	15 4	17 3	19 2	21 1	23 0
24...	12 0	14 0	16 0	18 0	20 0	22 0	24 0
25...	12 6	14 7	16 8	18 9	20 10	22 11	25 0
26...	13 0	15 2	17 4	19 6	21 8	23 10	26 0
27...	13 6	15 9	18 0	20 3	22 6	24 9	27 0
28...	14 0	16 4	18 8	21 0	23 4	25 8	28 0
29...	14 6	16 11	19 4	21 9	24 2	26 7	29 0
30...	15 0	17 6	20 0	22 6	25 0	27 6	30 0
31...	15 6	18 1	20 8	23 3	25 10	28 5	31 0
32...	16 0	18 8	21 4	24 0	26 8	29 4	32 0
33...	16 6	19 3	22 0	24 9	27 6	30 3	33 0
34...	17 0	19 10	22 8	25 6	28 4	31 2	34 0
35...	17 6	20 5	23 4	26 3	29 2	32 1	35 0
36...	18 0	21 0	24 0	27 0	30 0	33 0	36 0

LUMBER MEASUREMENT AT SIGHT.

(Continued.)

FEET LONG.	13 in W	14 in W	15 in W	16 in W	17 in W	18 in W	19 in W
	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.
8...	8 8	9 4	10 0	10 8	11 4	12 0	12 8
9...	9 9	10 6	11 3	12 0	12 9	13 6	14 3
10...	10 10	11 8	12 6	13 4	14 2	15 0	15 10
11...	11 11	12 10	13 9	14 8	15 7	16 6	17 5
12...	13 0	14 0	15 0	16 0	17 0	18 0	19 0
13...	14 1	15 2	16 3	17 4	18 5	19 6	20 7
14...	15 2	16 4	17 6	18 8	19 10	21 0	22 2
15...	16 3	17 6	18 9	20 0	21 3	22 6	23 9
16...	17 4	18 8	20 0	21 4	22 8	24 0	25 4
17...	18 5	19 10	21 3	22 8	24 1	25 6	26 11
18...	19 6	21 0	22 6	24 0	25 6	27 0	28 6
19...	20 7	22 2	23 9	25 4	26 11	28 6	30 1
20...	21 8	23 4	25 0	26 8	28 4	30 0	31 8
21...	22 9	24 6	26 3	28 0	29 9	31 6	33 3
22...	23 10	25 8	27 6	29 4	31 2	33 0	34 10
23...	24 11	26 10	28 9	30 8	32 7	34 6	36 5
24...	26 0	28 0	30 0	32 0	34 0	36 0	38 0
25...	27 1	29 2	31 3	33 4	35 5	37 6	39 7
26...	28 2	30 4	32 6	34 8	36 10	39 0	41 2
27...	29 3	31 6	33 9	36 0	38 3	40 6	42 9
28...	30 4	32 8	35 0	37 4	39 8	42 0	44 4
29...	31 5	33 10	36 3	38 8	41 1	43 6	45 11
30...	32 6	35 0	37 6	40 0	42 6	45 0	47 6
31...	33 7	36 2	38 9	41 6	44 0	46 6	49 0
32...	34 8	37 4	40 0	42 6	45 6	48 0	50 6
33...	35 9	38 6	41 3	44 0	46 6	49 6	52 0
34...	36 10	39 8	42 6	45 6	48 0	51 0	54 0
35...	37 11	40 10	43 9	46 6	49 6	52 6	55 6
36...	39 0	42 0	45 0	48 0	51 0	54 0	57 0

Value of Alaska to the United States.

Alaska cost the United States \$7,000,000, and the fur seal company has already paid our government over \$8,000,000 for the privileges it enjoys of taking seals from the territorial waters.

LUMBER MEASUREMENT AT SIGHT.

(Continued.)

FEET LONG.	20 in W		21 in W		22 in W		23 in W		24 in W		25 in W	
	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.
8.....	13	4	14	0	14	8	15	4	16	0	16	8
9.....	15	0	15	9	16	6	17	3	18	0	18	9
10.....	16	8	17	6	18	4	19	2	20	0	20	10
11.....	18	4	19	3	20	2	21	1	22	0	22	11
12.....	20	0	21	0	22	0	23	0	24	0	25	0
13.....	21	8	22	9	23	10	24	11	26	0	27	1
14.....	23	4	24	6	25	8	26	10	28	0	29	2
15.....	25	0	26	3	27	6	28	9	30	0	31	3
16.....	26	8	28	0	29	4	30	8	32	0	33	4
17.....	28	4	29	9	31	2	32	7	34	0	35	5
18.....	30	0	31	6	33	0	34	6	36	0	37	6
19.....	31	8	33	3	34	10	36	5	38	0	39	7
20.....	33	4	35	0	36	8	38	4	40	0	41	8
21.....	35	0	36	9	38	6	40	3	42	0	43	9
22.....	36	8	38	6	40	4	42	2	44	0	45	10
23.....	38	4	40	3	42	2	44	1	46	0	47	11
24.....	40	0	42	0	44	0	46	0	48	0	50	0
25.....	41	8	43	9	45	10	47	11	50	0	52	1
26.....	43	4	45	6	47	8	49	10	52	0	54	2
27.....	45	0	47	3	49	6	51	9	54	0	56	3
28.....	46	8	49	0	51	4	53	8	56	0	58	4
29.....	48	4	50	9	53	2	55	7	58	0	60	5
30.....	50	0	51	6	55	0	57	6	60	0	62	6
31.....	51	6	54	0	57	0	59	6	62	0	64	6
32.....	53	6	56	0	58	6	61	6	64	0	66	6
33.....	55	0	57	6	60	6	63	0	66	0	68	4
34.....	56	6	59	6	62	6	65	0	68	0	70	6
35.....	58	6	61	0	64	0	67	0	70	0	73	0
36.....	60	0	63	0	66	0	69	0	72	0	75	0

The Highest Railroad in the United States.

The highest railroad in the United States is the Denver & Rio Grande, Marshall Pass, 10,853 feet.

LUMBER MEASUREMENT TABLE.

Square Timber and Scantling—Measurement at Sight.

Dimensions in inches head each column, and the length will be found in the left-hand column. If the required dimensions cannot be found in the table, add two lengths or breadths together, or take part of some length or breadth, as the case may require.

FEET.	DIMENSIONS EACH WAY IN INCHES.								
	6.11	6.12	7.7	7.8	7.9	7.10	7.11	7.12	8.8
6	33.	36.	24. 6	28.	31.6	35.	38. 6	42.	32.
7	38.6	42.	28. 7	32.8	36.9	40. 10	41. 11	49.	37.4
8	44.	48.	32. 8	37.4	42.	46. 8	55. 4	56.	42.8
9	49.6	54.	36. 9	42.	47.3	52. 6	57. 9	63.	48.
10	55.	60.	40. 10	46.8	52.6	58. 4	64. 2	70.	53.4
11	60.6	66.	40. 11	51.4	57.9	64. 2	70. 7	77.	58.8
12	66.	72.	49.	56.	63.	70.	77.	84.	64.
13	71.6	78.	53. 1	60.8	68.3	75. 10	83. 5	91.	69.4
14	77.	84.	57. 2	65.4	73.6	81. 8	89. 10	98.	74.8
15	82.6	90.	61. 3	70.	78.9	87. 6	96. 3	105.	80.
16	88.	96.	64. 4	74.8	84.	93. 4	102. 8	112.	85.4
17	93.6	102.	69. 5	79.4	89.3	99. 2	109. 1	119.	90.8
18	99.	108.	73. 6	84.	94.6	105.	115. 6	126.	96.
19	104.6	114.	77. 7	88.8	99.9	110. 10	121. 11	133.	101.4
20	110.	120.	81. 8	93.4	105.	116. 8	128. 4	140.	106.8
21	115.6	126.	85. 9	98.	110.3	122. 6	134. 9	147.	112.
22	121.	132.	89. 10	102.8	115.6	128. 5	141. 2	154.	117.4
23	126.6	138.	93. 11	107.4	120.9	134. 2	147. 7	161.	122.8
24	132.	144.	98.	112.	126.	140.	154.	168.	128.
26	143.	156.	106.2	121.4	136.6	151. 8	166. 10	182.	138.8
28	154.	168.	114.4	130.8	147.	163.	179. 8	196.	148.8
30	165.	180.	122.6	140.	157.6	175.	192. 6	210.	160.
32	176.	192.	128.8	149.4	168.	186. 8	205. 4	224.	170.8

LUMBER MEASUREMENT TABLE.

(Continued.)

FEET.	DIMENSIONS EACH WAY IN INCHES.							
	8.9	8.10	8.11	8.12	9.9	9.10	9.11	9.12
6.....	36.	40.	44.	48.	40.6	45.	49.6	54.
7.....	42.	46.8	51.4	56.	47.3	52.6	57.9	63.
8.....	48.	53.4	58.8	64.	54.	60.	66.	72.
9.....	54.	60.	66.	72.	60.9	67.6	74.3	81.
10.....	60.	66.8	73.4	80.	67.6	75.	82.6	90.
11.....	66.	73.4	80.8	88.	74.3	82.6	90.9	99.
12.....	72.	80.	88.	96.	81.	90.	99.	108.
13.....	78.	86.8	95.4	104.	87.9	97.6	107.3	117.
14.....	84.	93.4	102.8	112.	94.6	105.	115.6	126.
15.....	90.	100.	110.	120.	101.3	112.6	123.9	135.
16.....	96.	106.8	117.4	128.	108.	120.	132.	144.
17.....	102.	113.4	124.8	136.	114.9	127.6	140.3	153.
18.....	108.	120.	132.	144.	121.6	135.	148.6	162.
19.....	114.	126.8	139.4	152.	128.3	142.6	156.9	171.
20.....	120.	133.4	146.8	160.	135.	150.	165.	180.
21.....	126.	140.	154.	168.	141.9	157.6	173.3	189.
22.....	132.	146.8	161.4	176.	148.6	165.	181.6	198.
23.....	138.	153.4	168.8	184.	155.3	172.6	189.9	207.
24.....	144.	160.	176.	192.	162.	180.	198.	216.
26.....	156.	173.4	190.8	208.	175.6	195.2	214.6	234.
28.....	168.	186.8	205.4	224.	189.	210.	231.	252.
30.....	180.	200.	220.	240.	202.6	225.	247.6	270.
32.....	192.	213.8	234.8	256.	216.	240.	264.	288.

Strength of Ice of Various Thicknesses.

Ice two inches thick will bear men to walk on.

Ice four inches thick will bear horses and riders.

Ice six inches thick will bear teams with moderate loads.

Ice eight inches thick will bear teams with very heavy loads.

Ice ten inches thick will sustain a pressure of 1,000 pounds per square foot.

LUMBER MEASUREMENT TABLE.

(Continued.)

FEET	DIMENSIONS EACH WAY IN INCHES.							
	10. 10	10. 11	10. 12	11. 11	11. 12	12. 12	12. 13	12. 14
6...	50.	55.	60.	60.6	66.	72.	78.	84.
7...	58.4	64. 2	70.	70.7	77.	84.	91.	98.
8...	66.8	73. 4	80.	80.8	88.	96.	104.	112.
9...	75.	86. 6	90.	90.9	99.	108.	117.	126.
10...	83.4	91. 8	100.	100.10	110.	120.	130.	140.
11...	91.8	100.10	110.	110.11	121.	132.	143.	154.
12...	100.	110.	120.	121.	132.	144.	156.	168.
13...	108.4	119. 2	130.	131.1	143.	156.	169.	182.
14...	116.8	128. 4	140.	141.2	154.	168.	182.	196.
15...	125.	137. 6	150.	151.3	165.	180.	195.	210.
16...	133.4	146. 8	160.	161.4	176.	192.	208.	224.
17...	141.8	155.10	170.	171.5	187.	204.	221.	238.
18...	150.	165.	180.	181.6	198.	216.	234.	252.
19...	158.4	174. 2	190.	191.7	209.	228.	247.	266.
20...	166.8	183. 4	200.	201.8	220.	240.	260.	280.
21...	175.	192. 6	210.	211.9	231.	252.	273.	294.
22...	183.4	201. 8	220.	221.10	242.	264.	286.	308.
23...	191.8	210.10	230.	231.11	253.	276.	299.	322.
24...	200.	220.	240.	242.	264.	288.	312.	336.
26...	216.8	238. 4	260.	262.2	286.	312.	338.	364.
28...	233.8	256. 8	280.	282.4	308.	336.	364.	392.
30...	250.	275. 6	300.	302.6	330.	370.	390.	420.
32...	266.8	293. 4	320.	322.8	352.	384.	416.	448.

A Waterproof Blacking which will give a fine polish without rubbing, and will not injure the leather: 18 parts bees wax, 6 parts spermaceti, 66 parts oil of turpentine, 5 parts asphalt varnish, 1 part powdered borax, 5 parts Frankfort black, 2 parts Prussian blue, 1 part nitro-benzol. - Melt the wax, add the powdered borax, and stir until a kind of jelly has been formed. In another pan melt the spermaceti, add the asphalt varnish, previously mixed with the oil of turpentine, stir well, and add to the wax. Lastly add the color, previously rubbed smooth with a little of the mass.

Timber Measurement Table,

Showing the cubical contents (fractions of feet omitted) of round logs, masts, spars, etc. Length of log is shown in left-hand column. Diameter is shown at the head of column. If the desired dimensions are not shown, double some numbers.

L. ft.	10	11	12	13	14	15	16	17	18	19
8...	4	5	6	7	8	10	11	12	14	16
9...	5	6	7	8	9	11	12	14	16	18
10...	5	7	8	9	10	12	14	16	18	20
11...	6	7	8	10	12	13	16	17	19	22
12...	6	8	9	11	13	15	17	19	21	24
13...	7	9	10	12	14	16	18	20	23	26
14...	7	9	11	13	15	17	19	22	25	28
15...	8	10	12	14	16	18	21	23	26	30
16...	9	11	12	14	17	20	22	25	28	32
17...	9	11	13	16	18	21	24	27	30	33
18...	10	12	14	16	19	22	25	28	32	35
19...	10	13	15	17	21	23	27	30	33	37
20...	11	13	16	18	21	25	28	31	35	39
21...	11	14	16	19	22	26	29	33	37	41
22...	12	15	17	20	23	27	31	35	39	43
23...	12	16	18	21	24	28	32	36	41	45
24...	13	16	19	22	26	30	34	38	42	47
25...	14	17	20	23	27	31	35	39	44	49
26...	14	17	20	24	28	32	36	41	46	51
27...	15	18	21	25	29	33	38	42	48	53
28...	15	18	22	26	30	35	39	44	49	55
29...	16	19	23	27	31	36	41	45	51	57
30...	16	20	24	28	32	37	42	47	53	59
31...	17	20	24	29	33	38	43	48	55	61
32...	17	21	25	29	34	40	45	50	57	63
33...	18	22	26	30	35	41	46	52	58	65
34...	19	22	27	31	36	42	48	53	60	67
35...	19	23	28	32	37	43	49	55	62	69
36...	20	24	28	33	39	44	50	57	64	71

TIMBER MEASUREMENT TABLE—(Continued).

L. Ft.	20	21	22	23	24	25	26	27	28
8	17	19	21	23	25	27	29	32	34
9	20	22	24	26	28	31	33	36	38
10	22	24	26	29	31	34	37	40	43
11	24	26	29	32	35	37	41	43	47
12	26	29	32	34	38	41	44	47	51
13	28	31	34	37	41	44	48	51	56
14	31	34	37	40	44	48	52	55	60
15	33	36	40	43	47	51	55	59	64
16	35	38	42	46	50	55	59	63	68
17	37	41	45	49	53	58	63	68	73
18	39	43	48	52	57	61	66	72	77
19	41	45	50	55	60	65	70	75	81
20	44	48	53	58	63	68	74	79	85
21	46	50	55	61	66	71	77	83	90
22	48	53	58	64	69	75	81	87	94
23	50	55	61	66	72	78	85	91	98
24	52	58	63	69	75	82	88	95	102
25	54	60	66	72	79	85	92	99	107
26	57	63	69	75	82	89	96	103	111
27	59	65	71	78	85	92	99	107	115
28	61	67	74	81	88	95	103	111	120
29	63	70	77	84	91	99	107	115	124
30	65	72	79	86	94	102	110	119	128
31	68	75	82	89	98	106	114	123	132
32	70	77	85	92	100	109	118	127	137
33	72	79	87	95	104	112	121	130	141
34	74	82	90	98	107	116	125	135	145
35	76	84	93	101	110	119	129	139	149
36	79	86	95	104	113	123	133	143	154

Greatest Known Depth of the Ocean.

The greatest depth which has been ascertained by sounding is 25,720 feet, or 4,620 fathoms. The average depth between 60 degrees north and 60 degrees south is almost three miles.

TIMBER MEASUREMENT TABLE—(Continued)

L. Ft.	29	30	31	32	33	34	35	36	37
8	37	39	42	45	48	50	53	57	60
9	41	44	47	50	53	57	60	64	67
10	46	49	52	56	59	63	67	71	75
11	50	53	57	61	65	69	73	77	82
12	55	58	62	67	71	76	80	85	90
13	60	63	68	72	77	82	87	92	97
14	64	68	73	78	83	88	94	99	105
15	69	73	78	84	89	95	100	106	112
16	73	78	83	89	95	101	107	113	114
17	78	83	89	95	101	107	114	121	127
18	82	88	94	100	106	114	120	128	134
19	87	93	99	106	112	120	127	135	142
20	91	98	105	112	118	126	134	142	149
21	96	103	111	117	124	132	140	149	157
22	101	109	116	123	130	139	147	156	164
23	105	113	121	128	136	145	154	163	172
24	111	118	127	134	143	151	160	170	179
25	116	123	131	139	149	158	167	178	187
26	120	128	137	145	154	164	174	185	194
27	125	133	142	151	160	170	180	192	202
28	129	136	147	156	166	177	187	198	209
29	134	143	153	162	172	183	194	206	217
30	138	148	158	168	177	189	200	213	224
31	143	152	163	173	182	195	207	220	232
32	148	157	169	178	188	202	214	227	239
33	152	162	174	184	194	208	220	234	247
34	157	167	179	190	200	214	227	241	254
35	161	172	182	196	205	220	234	248	261
36	166	177	190	201	212	227	240	255	269

The following shows weight required to tear asunder bars one inch square of the following material :

Oak, $5\frac{1}{6}$ tons; Fir, $5\frac{1}{4}$ tons; Cast Iron, $7\frac{3}{4}$ tons; Wrought Iron, 10 tons; Wrought Copper, 15 tons; English Bar Iron, 25 tons; American Iron, $37\frac{1}{2}$ tons; Blistered Steel, $59\frac{1}{2}$ tons.

Logs Reduced to Running Board Measure. Logs Reduced to One Inch Board Measure.

If the log is longer than is contained in the table, take any two lengths.

The first column on the left gives the length of the log in feet. The figures under D denote the diameters of the logs in inches. Fractional parts of inches are not given.

The diameter of timber is usually taken 20 feet from the butt. All logs short of 20 feet, take the diameter at the top or small end.

To find the number of feet of boards which a log will produce when sawed, take the length of feet in the first column on the left hand, and the diameter at the top of the page in inches.

Suppose a log 12 feet long and 24 inches in diameter. In the left hand column is the length, and opposite 12 under 24 is 300, the number of feet of boards in a log of that length and diameter.

Feet Long.	D.	D.	D.	D.	D.	D.	D.	D.	D.	D.	D.	D.	D.
	12	13	14	15	16	17	18	19	20	21	22	23	24
10..	54	66	76	93	104	107	137	154	179	194	210	237	256
11..	59	72	83	102	114	131	151	169	196	213	231	261	270
12..	64	78	90	111	124	143	164	184	213	232	252	285	300
13..	69	84	97	120	134	154	177	199	231	251	273	308	327
14..	74	90	104	129	144	166	191	214	249	270	293	332	350
15..	79	96	111	138	154	177	204	229	266	289	314	355	376
16..	84	102	118	146	164	189	217	244	284	308	335	379	401
17..	89	108	126	155	173	200	231	259	301	327	356	402	426
18..	94	114	133	164	183	212	244	274	319	346	377	426	451
19..	99	121	140	173	193	223	257	289	336	365	398	449	477
20..	104	127	147	182	203	236	271	304	354	384	419	473	501
21..	109	133	154	191	213	247	284	319	371	403	440	497	527
22..	114	139	161	200	223	259	297	334	389	422	461	520	552
23..	119	145	168	209	233	270	311	349	407	441	481	542	568
24..	124	151	176	218	243	282	325	364	424	460	502	568	613
25..	129	157	183	227	253	293	337	379	442	479	523	591	628
26..	134	163	190	236	263	305	350	394	459	498	544	615	653
27..	139	169	197	245	273	316	363	409	477	517	565	639	678
28..	144	175	204	254	283	328	376	424	494	536	586	663	703
29..	149	181	211	263	293	339	389	439	512	555	607	687	728
30..	154	187	218	272	303	351	402	454	529	574	628	711	753
31..	159	193	225	281	313	362	415	469	547	593	649	735	778

If we're right we can't be hurt by the truth, and if we ain't right we ought to be hurt righteously.

You show me a man who keeps the Sabbath day holy and I'll show you a man that's a Christian all the week.

LOGS REDUCED TO RUNNING BOARD MEASURE, ETC.—*Continued.*

Feet Long.	D. 25	D. 26	D. 27	D. 28	D. 29	D. 30	D. 31	D. 32	D. 33	D. 34	D. 35	D. 36
10...	283	309	339	359	377	407	440	456	486	496	543	573
11...	311	340	374	396	415	447	484	502	535	546	598	630
12...	340	371	408	432	453	489	528	548	584	596	653	688
13...	369	404	442	469	491	530	572	594	633	646	708	746
14...	397	435	476	505	529	571	618	640	682	696	762	803
15...	426	465	511	541	567	612	662	686	731	746	817	861
16...	455	496	545	578	605	653	706	732	780	796	872	919
17...	483	527	579	614	643	694	751	778	829	846	927	976
18...	512	558	613	650	681	735	795	824	878	896	981	1034
19...	541	590	647	688	719	776	839	870	927	946	1036	1092
20...	569	621	681	724	757	817	884	916	976	996	1091	1148
21...	598	652	716	760	796	859	928	962	1025	1046	1146	1206
22...	627	684	750	796	834	900	972	1008	1074	1096	1200	1264
23...	655	715	784	833	872	941	1017	1054	1123	1146	1255	1318
24...	684	746	818	889	910	982	1061	1100	1172	1196	1310	1376
25...	713	777	853	906	948	1023	1105	1146	1221	1246	1365	1434
26...	742	808	887	942	986	1064	1149	1192	1270	1296	1420	1492
27...	771	839	921	979	1024	1105	1193	1238	1319	1346	1475	1550
28...	800	870	955	1015	1062	1146	1237	1284	1368	1396	1530	1608
29...	829	901	989	1052	1100	1187	1281	1330	1417	1446	1585	1666
30...	858	932	1023	1088	1138	1228	1325	1376	1466	1496	1640	1724
31...	887	963	1057	1125	1176	1269	1369	1422	1515	1546	1695	1782

Stock Brokers' Technicalities.

A **BULL** is one who operates to depress the value of stocks, that he may buy for a rise.

A **BEAR** is one who sells stocks for future delivery, which he does not own at the time of sale.

A **CORNER** is when the Bears cannot buy or borrow the stock to deliver in fulfillment of their contracts.

OVERLOADED is when the Bulls cannot take and pay for the stock they have purchased.

SHORT is when a person or party sells stocks when they have none, and expect to buy or borrow in time to deliver.

LONG is when a person or party has a plentiful supply of stocks.

A **POOL** or **RING** is a combination formed to control prices.

A broker is said to **CARRY** stocks for his customer when he has bought and is holding it for his account.

A **WASH** is a pretended sale by special agreement between buyer and seller, for the purpose of getting a quotation reported.

A **PUT AND CALL** is when a person gives so much per cent. for the option of buying or selling so much stock on a certain day, at a price fixed the day the option is given.

Board and Plank Measurement at Sight.

This table gives the Sq. Ft. and In. in Board from 6 to 25 inches wide, and from 8 to 36 feet long. If a board be longer than 36 ft., unite two numbers. Thus, if a board is 40 ft. long and 16 in. wide, add 30 and 10 and you have 53 ft. 4 in. For 2 in. plank double the product.

Feet Long.	6 in.	7 in.	8 in.	9 in.	10 in.	11 in.	12 in.	13 in.	14 in.	15 in.
	W.	W.	W.	W.	W.	W.	W.	W.	W.	W.
	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.
8.....	4 0	4 8	5 4	6 0	6 8	7 4	8 0	8 8	9 4	10 0
9.....	4 6	5 3	6 0	6 9	7 6	8 3	9 0	9 9	10 6	11 3
10.....	5 0	5 10	6 8	7 6	8 4	9 2	10 0	10 10	11 8	12 6
11.....	5 6	6 5	7 4	8 3	9 2	10 1	11 0	11 11	12 10	12 9
12.....	6 0	7 0	8 0	9 0	10 0	11 0	12 0	13 0	14 0	15 0
13.....	6 6	7 7	8 8	9 9	10 10	11 11	12 13	13 14	14 15	2 16 3
14.....	7 0	8 2	9 4	10 6	11 8	12 10	14 0	15 2	16 4	17 6
15.....	7 6	8 9	10 0	11 3	12 6	13 9	15 0	16 3	17 6	18 9
16.....	8 0	9 4	10 8	12 0	13 4	14 8	16 0	17 4	18 8	20 0
17.....	8 6	9 11	11 1	12 9	14 2	15 7	17 0	18 5	19 10	21 3
18.....	9 0	10 6	12 0	13 6	15 0	16 6	18 0	19 6	21 0	22 6
19.....	9 6	11 1	12 8	14 3	15 10	17 5	19 0	20 7	22 2	23 9
20.....	10 0	11 8	13 4	15 0	16 8	18 4	20 0	21 8	23 4	25 0
21.....	10 6	12 3	14 0	15 9	17 6	19 3	21 0	22 9	24 6	26 3
22.....	11 0	12 10	14 8	16 6	18 4	20 2	22 0	23 10	25 8	27 6
23.....	11 6	13 5	15 4	17 3	19 2	21 1	23 0	24 11	26 10	28 9
24.....	12 0	14 0	16 0	18 0	20 0	22 0	24 0	26 0	28 0	30 0
25.....	12 6	14 7	16 8	18 9	20 10	22 11	24 13	26 14	28 15	30 16
26.....	13 0	15 2	17 4	19 6	21 8	23 10	26 0	28 2	30 4	32 6
27.....	13 6	15 9	18 0	20 3	22 6	24 9	27 0	29 3	31 6	33 9
28.....	14 0	16 4	18 8	21 0	23 4	25 8	28 0	30 4	32 8	35 0
29.....	14 6	16 11	19 4	21 9	24 2	26 7	29 0	31 5	33 10	36 3
30.....	15 0	17 6	20 0	22 6	25 0	27 6	30 0	32 6	35 0	37 6
31.....	15 6	18 1	20 8	23 3	25 10	28 5	31 0	33 7	36 2	38 9
32.....	16 0	18 8	21 4	24 0	26 8	29 4	32 0	34 8	37 4	40 0
33.....	16 6	19 3	22 0	24 9	27 6	30 3	33 0	35 9	38 6	41 3
34.....	17 0	19 10	22 8	25 6	28 4	31 2	34 0	36 10	39 8	42 6
35.....	17 6	20 5	23 4	26 3	29 2	32 1	35 0	37 11	40 10	43 9
36.....	18 0	21 0	24 0	27 0	30 0	33 0	36 0	39 0	42 0	45 0

The infidelity that hurts is the infidelity of the man who makes out that he's on God's side, and then won't live up to it.

Find me a man preparing himself to hear the gospel and I can show you a man that is going to be benefited by the gospel.

BOARD AND PLANK MEASUREMENT.—*Continued.*

Feet Long.	16 in.	17 in.	18 in.	19 in.	20 in.	21 in.	22 in.	23 in.	24 in.	25 in.
	W. ft. in.	W. ft. in.	W. ft. in.	W. ft. in.	W. ft. in.	W. ft. in.	W. ft. in.	W. ft. in.	W. ft. in.	W. ft. in.
8.....	10 8	11 4	12 0	12 8	13 4	14 0	14 8	15 4	16 0	16 8
9.....	12 0	12 9	13 6	14 3	15 0	15 9	16 6	17 3	18 0	18 9
10.....	13 4	14 2	15 0	13 10	16 8	17 6	18 4	19 2	20 0	20 10
11.....	14 8	15 7	16 6	17 5	18 4	19 3	20 2	21 1	22 0	22 11
12.....	16 0	17 0	18 0	19 0	20 0	21 0	22 0	23 0	24 0	25 0
13.....	17 4	18 5	19 6	20 7	21 8	22 9	23 10	24 11	26 0	27 1
14.....	18 8	19 10	21 0	22 2	23 4	24 6	25 8	26 10	28 0	29 2
15.....	20 0	21 3	22 6	23 9	25 0	26 3	27 6	28 9	30 0	31 3
16.....	21 4	22 8	24 0	25 4	26 8	28 0	29 4	30 8	32 0	33 4
17.....	22 8	24 1	25 6	26 11	28 4	29 9	31 2	32 7	34 0	35 5
18.....	24 0	25 6	27 0	28 6	30 0	31 6	33 0	34 6	36 0	37 6
19.....	25 4	26 11	28 6	30 1	31 8	33 3	34 10	36 5	38 0	39 7
20.....	26 8	28 4	30 0	31 8	33 4	35 0	36 8	38 4	40 0	41 8
21.....	28 0	29 9	31 6	33 3	35 0	36 9	38 6	40 3	42 0	43 9
22.....	29 4	31 2	33 0	34 10	36 8	38 6	40 4	42 2	44 0	45 10
23.....	30 8	32 7	34 6	36 5	38 4	40 3	42 2	44 1	46 0	47 11
24.....	33 0	34 0	36 0	38 0	40 0	42 0	44 0	46 0	48 0	50 0
25.....	34 4	35 5	37 6	39 7	41 8	43 9	45 10	47 11	50 0	52 1
26.....	35 8	36 10	39 0	41 2	43 4	45 6	47 8	49 10	52 0	54 2
27.....	36 0	38 3	40 6	42 9	45 0	47 3	49 6	51 9	54 0	56 3
28.....	37 4	39 8	42 0	44 4	46 8	49 0	51 4	53 8	56 0	58 4
29.....	38 8	41 1	43 6	45 11	48 4	50 9	53 2	55 7	58 0	60 5
30.....	40 0	42 6	45 0	47 6	50 0	51 6	55 0	57 6	60 0	62 6

GENIUS OF YOUTH.

Handel had produced an opera before he was 15.

Corneille had planned a tragedy before he was 10.

Auber wrote an operetta for the stage before he was 14.

Pitt was Chancellor of the Exchequer before he was 25.

Schiller was widely known as a poet before the age of 20.

Kaulbach at 17 was pronounced the first artistic genius in Germany.

Kent began his philosophical and metaphysical speculations before the age of 18.

Goethe had produced a considerable number of poems and several dramas before he was 20.

Raphael showed his artistic abilities at the early age of 12, when he was widely known as an artist in oil.

WOOD AND BARK MEASUREMENT AT SIGHT.

The Cord of Wood or Bark is 8 feet long, 4 feet high, and 4 feet wide, as established by law in most of the States and the Dominion of Canada. If the Wood is 8 feet long, double the product. Fractions of feet are omitted in the Table. Price will be found heading the columns, number of feet in the left-hand column.

Ft.	\$1 50	\$1 75	\$2 00	\$2 25	\$2 50	\$2 75	\$3 00	\$3 25	\$3 50
1	01	01	01	02	02	02	02	02	02
2	02	02	03	03	04	04	05	05	05
3	03	04	04	05	06	06	07	07	08
4	05	06	06	07	08	09	09	10	10
5	06	07	08	09	10	11	12	13	13
6	07	08	09	11	12	13	14	15	16
7	08	10	11	12	14	15	16	17	19
8	09	11	12	14	16	18	19	20	21
16	19	22	25	28	31	35	37	40	43
24	28	33	37	42	47	52	56	61	65
32	38	44	50	56	63	69	75	81	87
40	47	55	63	70	78	86	94	1 02	1 09
48	56	66	75	84	94	1 03	1 12	1 22	1 31
56	61	77	88	98	1 09	1 20	1 33	1 42	1 53
64	75	88	1 00	1 13	1 25	1 38	1 50	1 62	1 75
72	84	98	1 13	1 27	1 41	1 55	1 69	1 83	1 96
80	94	1 09	1 25	1 41	1 56	1 72	1 88	2 03	2 18
84	98	1 15	1 31	1 48	1 64	1 81	1 97	2 13	2 29
88	1 03	1 20	1 38	1 55	1 72	1 89	2 06	2 23	2 40
92	1 08	1 26	1 44	1 62	1 80	1 98	2 15	2 33	2 51
96	1 13	1 31	1 50	1 69	1 88	2 06	2 25	2 44	2 62
104	1 22	1 42	1 63	1 83	2 03	2 23	2 44	2 64	2 84
112	1 31	1 53	1 75	1 97	2 19	2 41	2 62	2 84	3 06
120	1 41	1 64	1 88	2 11	2 34	2 58	2 81	3 05	3 28
128	1 50	1 75	2 00	2 25	2 50	2 75	3 00	3 25	3 50

WOOD AND BARK MEASUREMENT AT SIGHT.

(Continued.)

Ft.	\$4 00	\$4 50	\$5 00	\$5 50	\$6 00	\$6 50	\$7 00	\$7 50	\$8 00
1	03	03	03	04	04	05	05	05	06
2	06	07	07	08	09	10	10	11	12
3	09	10	11	12	14	15	16	17	18
4	12	14	15	17	18	20	21	23	25
5	15	17	19	21	23	25	27	29	31
6	18	21	23	25	28	30	32	35	37
7	21	24	27	30	32	35	38	41	43
8	24	28	31	34	37	40	43	46	50
16	49	56	62	68	74	81	87	93	1 00
24	75	84	93	1 03	1 12	1 22	1 31	1 41	1 50
32	1 00	1 12	1 25	1 37	1 50	1 62	1 75	1 87	2 00
40	1 25	1 40	1 56	1 72	1 87	2 03	2 19	2 34	2 50
48	1 50	1 68	1 87	2 06	2 25	2 44	2 62	2 81	3 00
56	1 75	1 96	2 18	2 40	2 62	2 84	3 06	3 28	3 50
64	2 00	2 25	2 50	2 75	3 00	3 25	3 50	3 75	4 00
72	2 25	2 53	2 81	3 09	3 37	3 65	3 93	4 28	4 50
80	2 50	2 81	3 13	3 43	3 74	4 06	4 37	4 68	5 00
84	2 62	2 95	3 28	3 60	3 94	4 26	4 59	4 92	5 25
88	2 75	3 09	3 43	3 78	4 12	4 47	4 81	5 16	5 50
92	2 87	3 23	3 59	3 95	4 30	4 67	5 03	5 40	5 75
96	3 00	3 37	3 75	4 12	4 49	4 87	5 25	5 62	6 00
104	3 25	3 65	4 05	4 47	4 87	5 28	5 69	6 09	6 50
112	3 50	3 93	4 38	4 80	5 24	5 69	6 12	6 56	7 00
120	3 75	4 21	4 68	5 15	5 62	6 09	6 56	7 03	7 50
128	4 00	4 50	5 00	5 50	6 00	6 50	7 00	7 50	8 00

The Wedding Anniversary.

Fifth year.....	Wooden Wedding
Tenth year.....	Tin Wedding
Fifteenth year.....	Crystal Wedding
Twentieth year.....	China Wedding
Twenty-fifth year.....	Silver Wedding
Thirtieth year.....	Pearl Wedding
Fortieth year.....	Ruby Wedding
Fiftieth year.....	Golden Wedding
Seventy-fifth year.....	(Diamond Wedding

Table for Engineers and Machinists.

SIZE AND STRENGTH OF CAST IRON COLUMNS. IRON 1 IN. THICK.

Diameter in inches.	HEIGHT IN FEET.										
	4	6	8	10	12	14	16	18	20	22	24
	LOAD IN CWT.										
2	72	60	49	40	32	26	22	18	15	13	11
2½	119	105	91	77	65	55	47	40	34	29	25
3	178	143	125	108	91	77	64	53	44	37	31
3½	247	232	214	191	172	156	135	119	106	94	83
4	326	318	288	266	242	220	198	178	160	144	130
4½	418	400	379	354	327	301	275	251	229	208	189
5	522	501	479	452	427	394	365	337	310	285	262
6	607	592	573	550	525	497	469	440	413	386	360
7	1032	1013	989	959	924	887	848	808	765	725	686
8	1333	1315	1289	1259	1224	1185	1142	1097	1052	1005	959
9	1716	1697	1672	1640	1603	1561	1515	1461	1411	1364	1311
10	2119	2100	2077	2045	2007	1964	1916	1865	1811	1755	1697
11	2570	2550	2520	2490	2450	2410	2358	2305	2248	2189	2127
12	3050	3040	3020	2970	2930	2900	2830	2780	2730	2670	2600

WEIGHTS OF CORDWOOD.

		Lbs.	Carbon.
One cord of	Hickory	4,468	100
"	Hard Maple	2,864	58
"	Beech	2,234	64
"	Ash	3,449	79
"	Birch	2,368	49
"	Pitch Pine	1,903	43
"	Canada Pine	1,870	42
"	Yellow Oak	2,920	61
"	White Oak	1,870	81
"	Lombardy Poplar	1,775	41
"	Red Oak	3,255	70

READY RECKONER TABLE.

For computing Wages, Rent, Board, etc. The sum will be found heading the columns, and the days and weeks on the extreme left-hand column. If the desired sum is not in the table, double or treble two or three suitable numbers.

TIME.		\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75
Days.	1	.36	.39	.43	.44	.50	.53	.57	.61	.64	.68
	2	.72	.78	.86	.93	1.00	1.07	1.14	1.21	1.28	1.36
	3	1.08	1.17	1.29	1.39	1.50	1.61	1.71	1.82	1.93	2.03
	4	1.44	1.56	1.71	1.86	2.00	2.14	2.28	2.43	2.57	2.71
	5	1.80	1.95	2.14	2.32	2.50	2.68	2.86	3.03	3.21	3.39
Weeks.	1	2.15	2.34	2.57	2.78	3.00	3.21	3.43	3.64	3.86	4.07
	2	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75
	3	5.09	5.50	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50
	4	7.50	8.25	9.00	9.75	10.50	11.25	12.00	12.75	13.50	14.25
	5	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00
		12.50	13.75	15.00	16.25	17.50	18.75	20.00	21.25	22.50	23.75

TIME.		\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00	\$8.00
Days.	1	.71	.75	.79	.82	.86	.89	.93	.96	1.00	1.14
	2	1.43	1.50	1.58	1.64	1.72	1.78	1.86	1.92	2.00	2.28
	3	2.14	2.25	2.37	2.46	2.53	2.67	2.79	2.88	3.00	3.52
	4	2.86	3.00	3.15	3.28	3.44	3.56	3.72	3.84	4.00	4.26
	5	3.57	3.75	3.94	4.10	4.30	4.45	4.65	4.80	5.00	5.72
Weeks.	1	4.28	4.50	4.73	4.92	5.16	5.34	5.58	5.76	6.00	6.86
	2	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	8.00
	3	10.00	10.50	11.00	11.50	12.00	12.50	13.00	13.50	14.00	16.00
	4	15.00	15.75	16.50	17.25	18.00	18.75	19.50	20.25	21.00	24.00
	5	21.00	21.75	22.50	23.00	24.00	25.00	26.00	27.00	28.00	32.00
		26.25	27.50	28.75	30.00	31.25	32.50	33.50	35.00	40.00	

WEIGHT OF LEAD PIPE—DIFFERENT SIZES.

Caliber.	AAA Weight per foot.	AA Weight per foot.	A Weight per foot.	B Weight per foot.	C Weight per foot.	D Weight per foot.	D Light Weight per foot.	E Weight per foot.	E Light Weight per foot.
In.	lb. oz.	lb. oz.	lb. oz.	lb. oz.	lb. oz.	lb. oz.	lb. oz.	lb. oz.	lb. oz.
3/8	1 8	1 5	1 2	1 0	0 13	0 10	.....	0 8	.....
1/2	3 0	2 0	1 12	1 4	1 0	0 13	.....	0 11	0 9
5/8	3 8	2 12	2 8	2 0	1 12	1 8	1 4	1 0	1 12
3/4	4 8	3 8	3 0	2 4	2 0	1 12	1 8	1 4	1 0
7/8	6 0	4 12	4 0	3 4	2 8	2 0	.....	1 6	.....
1	6 12	5 12	4 12	3 12	3 0	2 8		2 0	
1 1/8	9 0	8 0	6 4	5 0	4 4	3 8		3 4	
1 1/4	10 12	9 0	7 0	6 0	5 4	4 0			

WEIGHT OF IRON PER FOOT.

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ROUND.			SQUARE.		FLAT.		FLAT.		FLAT.	
Size.	Weight.	Size.	Weight.	Size.	Weight.	Size.	Weight.	Size.	Weight.	
$\frac{1}{4}$	.163	$\frac{1}{4}$	.208	$1 \times \frac{1}{4}$	.833	$1\frac{1}{4} \times \frac{1}{2}$	2.91	$4\frac{1}{2} \times \frac{3}{4}$	11.25	
$\frac{3}{8}$	.368	$\frac{3}{8}$	.468	$1\frac{1}{8} \times \frac{1}{4}$	.937	$2 \times \frac{1}{2}$	3.33	$5 \times \frac{3}{4}$	12.50	
$\frac{1}{2}$	.654	$\frac{1}{2}$	.833	$1\frac{1}{4} \times \frac{1}{4}$	1.04	$2\frac{1}{2} \times \frac{1}{2}$	3.74	$5\frac{1}{2} \times \frac{3}{4}$	13.75	
$\frac{5}{8}$	1.02	$\frac{5}{8}$	1.30	$1\frac{3}{8} \times \frac{1}{4}$	1.14	$2\frac{1}{2} \times \frac{1}{2}$	4.16	$6 \times \frac{3}{4}$	15.00	
$\frac{3}{4}$	1.47	$\frac{3}{4}$	1.87	$1\frac{1}{2} \times \frac{1}{4}$	1.25	$2\frac{3}{4} \times \frac{1}{2}$	4.58	$1 \times \frac{7}{8}$	2.91	
$\frac{7}{8}$	2.00	$\frac{7}{8}$	2.55	$1\frac{3}{4} \times \frac{1}{4}$	1.45	$3 \times \frac{1}{2}$	5.00	$1\frac{1}{8} \times \frac{7}{8}$	3.28	
1	2.61	1	3.33	$2 \times \frac{1}{4}$	1.66	$3\frac{1}{2} \times \frac{1}{2}$	5.83	$1\frac{1}{4} \times \frac{7}{8}$	3.6	
$1\frac{1}{8}$	3.31	$1\frac{1}{8}$	4.21	$2\frac{1}{4} \times \frac{1}{4}$	1.87	$4 \times \frac{1}{2}$	6.66	$1\frac{3}{8} \times \frac{7}{8}$	4.01	
$1\frac{1}{4}$	4.09	$1\frac{1}{4}$	5.20	$2\frac{1}{2} \times \frac{1}{4}$	2.08	$5 \times \frac{1}{2}$	8.33	$1\frac{1}{2} \times \frac{7}{8}$	4.37	
$1\frac{3}{8}$	4.95	$1\frac{3}{8}$	6.30	$2\frac{3}{4} \times \frac{1}{4}$	2.29	$6 \times \frac{1}{2}$	10.00	$1\frac{3}{4} \times \frac{7}{8}$	5.10	
$1\frac{1}{2}$	5.89	$1\frac{1}{2}$	7.50	$3 \times \frac{1}{4}$	2.50	$1 \times \frac{5}{8}$	2.08	$2 \times \frac{7}{8}$	5.83	
$1\frac{5}{8}$	6.91	$1\frac{5}{8}$	8.80	$3\frac{1}{4} \times \frac{1}{4}$	2.70	$1\frac{1}{8} \times \frac{5}{8}$	2.34	$2\frac{1}{4} \times \frac{7}{8}$	6.56	
$1\frac{3}{4}$	8.01	$1\frac{3}{4}$	10.20	$3\frac{1}{2} \times \frac{1}{4}$	2.91	$1\frac{1}{4} \times \frac{5}{8}$	2.60	$2\frac{1}{2} \times \frac{7}{8}$	7.29	
$1\frac{7}{8}$	9.20	$1\frac{7}{8}$	11.71	$3\frac{3}{4} \times \frac{1}{4}$	3.12	$1\frac{3}{8} \times \frac{5}{8}$	2.86	$2\frac{3}{4} \times \frac{7}{8}$	8.02	
2	10.47	2	13.33	$4 \times \frac{1}{4}$	3.33	$1\frac{1}{2} \times \frac{5}{8}$	3.12	$3 \times \frac{7}{8}$	8.75	
$2\frac{1}{8}$	11.82	$2\frac{1}{8}$	15.05	$4\frac{1}{2} \times \frac{1}{4}$	3.75	$1\frac{3}{4} \times \frac{5}{8}$	3.64	$3\frac{1}{2} \times \frac{7}{8}$	10.20	
$2\frac{1}{4}$	13.25	$2\frac{1}{4}$	16.87	$5 \times \frac{1}{4}$	4.17	$2 \times \frac{5}{8}$	4.16	$4 \times \frac{7}{8}$	11.66	
$2\frac{3}{8}$	14.76	$2\frac{3}{8}$	20.80	$6 \times \frac{1}{4}$	5.00	$2\frac{1}{4} \times \frac{5}{8}$	4.68	$4\frac{1}{2} \times \frac{7}{8}$	13.12	
$2\frac{1}{2}$	16.36	$2\frac{1}{2}$	25.20	$1 \times \frac{3}{8}$	1.25	$2\frac{1}{2} \times \frac{5}{8}$	5.20	$5 \times \frac{7}{8}$	14.58	
$2\frac{7}{8}$	19.79	$2\frac{7}{8}$	30.00	$1\frac{1}{8} \times \frac{3}{8}$	1.40	$2\frac{3}{4} \times \frac{5}{8}$	5.72	$5\frac{1}{2} \times \frac{7}{8}$	16.04	
3	23.56	3	32.55	$1\frac{1}{4} \times \frac{3}{8}$	1.56	$3 \times \frac{5}{8}$	6.25	$6 \times \frac{7}{8}$	17.50	
$3\frac{1}{8}$	25.56	$3\frac{1}{8}$	35.20	$1\frac{3}{8} \times \frac{3}{8}$	1.71	$3\frac{1}{2} \times \frac{5}{8}$	7.29	$1\frac{1}{8} \times 1$	3.75	
$3\frac{1}{4}$	27.65	$3\frac{1}{4}$	37.96	$1\frac{1}{2} \times \frac{3}{8}$	1.87	$4 \times \frac{5}{8}$	8.33	$1\frac{1}{4} \times 1$	4.16	

3 3/4	39.88	3 3/4	40.80	1 3/4 x 3/8	2.18	5 5/8	10.42	1 3/4 x 1	4.50
3 3/4	32.07	3 3/4	46.87	2 x 3/8	12.50	6 x 3/8	12.50	1 1/2 x 1	5.00
4	36.81	4	53.33	2 1/4 x 3/8	2.81	1 x 3/4	2.50	1 3/4 x 1	5.83
4 1/4	41.88	4 1/4	60.20	2 1/2 x 3/8	3.12	1 1/8 x 3/4	2.81	2 x 1	6.66
4 1/2	44.54	4 1/2	67.50	2 3/4 x 3/8	3.43	1 1/4 x 3/4	3.12	2 1/4 x 1	7.50
4 3/4	47.28	4 3/4	75.20	3 x 3/8	3.75	1 3/8 x 3/4	3.43	2 1/2 x 1	8.33
5	50.11	5	83.33	3 1/2 x 3/8	4.37	1 1/2 x 3/4	3.75	2 3/4 x 1	9.16
5 1/4	53.01	5 1/4	93.20	4 x 3/8	5.00	1 3/4 x 3/4	4.37	3 x 1	10.00
5 1/2	59.06	5 1/2	102.20	5 x 3/8	6.25	2 x 3/4	5.00	3 1/2 x 1	11.66
6	65.45	6	112.20	6 x 3/8	7.50	2 1/4 x 3/4	5.62	4 x 1	13.33
5 1/4	73.02	.....	.....	1 x 1 1/2	1.66	2 1/2 x 3/4	6.25	4 1/2 x 1	15.00
5 3/4	80.03	.....	.....	1 1/8 x 1 1/2	1.87	2 3/4 x 3/4	6.87	5 x 1	16.66
5 1/2	87.08	.....	.....	1 1/4 x 1 1/4	2.08	3 x 3/4	8.50	5 1/2 x 1	18.33
6	95.06	.....	.....	1 3/8 x 1 1/2	2.29	3 1/2 x 3/4	8.75	6 x 1	20.00
6 1/4	112.02	.....	.....	1 1/2 x 1 1/2	2.50	4 x 3/4	10.00	6 1/2 x 1	21.66

WEIGHT OF FLAT STEEL PER FOOT.

1/4	1	1 1/8	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2
1/8	.852	1.17	1.06	1.27	1.49	1.70	1.91	2.13	2.34	2.55	2.77	2.97
3/8	1.27	1.75	1.59	1.91	2.23	2.55	2.87	3.20	3.51	3.83	4.15	4.47
1/2	1.70	2.34	2.13	2.55	2.98	3.40	3.83	4.26	4.68	5.11	5.53	5.98
5/8	2.13	2.92	2.66	3.19	3.72	4.26	4.79	5.32	5.85	6.39	6.92	7.45

MOULDERS AND PATTERN MAKERS' TABLE.

Cast Iron being 1,			Bar Iron being 1,			White Pine being 1,		
Bar Iron equal.....	1.07	Cast Iron equal.....	Bar Iron equal.....	.95	Cast Iron equal.....	White Pine equal.....	13.7	
Steel " " " " " "	1.08	Steel " " " " " "	" " " " " "	1.03	Brass " " " " " "	" " " " " "	12.7	
Brass " " " " " "	1.16	Copper " " " " " "	" " " " " "	1.16	Copper " " " " " "	" " " " " "	13.4	
Copper " " " " " "	1.21	Brass " " " " " "	" " " " " "	1.09	Lead " " " " " "	" " " " " "	12.1	
Lead " " " " " "	1.57	Lead " " " " " "	" " " " " "	1.46	Zinc " " " " " "	" " " " " "	11.3	

RELATIVE STRENGTH OF BODIES TO RESIST TORSION. LEAD BEING 1.

Tin	1.4	Gun Metal	5.0	English Iron	10.1
Copper	4.3	Cast Iron	9.0	Blistered Steel	16.6
Yellow Brass	4.6	Swedish Iron	9.5	Shear Steel	17.0

CAPACITIES, SIZE AND WEIGHT OF COPPERS.

Depth in Inches.	Gallons.	Weight in pounds.	Depth in inches.	Gallons.	Weight in pounds.
$9\frac{3}{4}$	1	$1\frac{1}{2}$	24	15	$22\frac{1}{2}$
$12\frac{1}{4}$	2	3	$24\frac{1}{2}$	16	24
14	3	$4\frac{1}{2}$	25	17	$25\frac{1}{2}$
$15\frac{1}{2}$	4	6	$25\frac{1}{2}$	18	27
$16\frac{1}{2}$	5	$7\frac{1}{2}$	26	19	$28\frac{1}{2}$
$17\frac{1}{2}$	6	9	$26\frac{1}{2}$	20	30
$18\frac{1}{2}$	7	$10\frac{1}{2}$	$26\frac{3}{4}$	21	$31\frac{1}{2}$
$19\frac{1}{2}$	8	12	27	22	33
$20\frac{1}{4}$	9	$13\frac{1}{2}$	$27\frac{1}{4}$	23	$34\frac{1}{2}$
21	10	15	$27\frac{1}{2}$	24	36
$21\frac{1}{2}$	11	$16\frac{1}{2}$	$27\frac{3}{4}$	25	$37\frac{1}{2}$
22	12	18	28	26	39
$22\frac{1}{2}$	13	$19\frac{1}{2}$	$28\frac{1}{2}$	27	$40\frac{1}{2}$
$23\frac{1}{4}$	14	21	29	28	42
			$29\frac{1}{2}$	29	$43\frac{1}{2}$
			30	30	45
			32	36	54
			34	43	$64\frac{1}{2}$
			35	48	72
			36	53	$79\frac{1}{2}$
			37	58	87
			38	63	$74\frac{1}{2}$
			39	67	$100\frac{1}{2}$
			40	71	$106\frac{1}{2}$
			45	104	156
			50	146	219

WEIGHT OF SQUARE AND ROUND CAST IRON.

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Square per Foot.				Round per Foot.			
Size.	Weight.	Size.	Weight.	Size.	Weight.	Size.	Weight.
Inches square.	Pounds.	Inches square.	Pounds.	Inches Diam.	Pounds.	Inches Diam.	Pounds.
$\frac{1}{2}$	.78	4	50.	$\frac{1}{2}$	.61	$4\frac{1}{8}$	41.66
$\frac{3}{8}$	1.22	$4\frac{1}{8}$	53.14	$\frac{3}{8}$	.95	$4\frac{1}{4}$	44.27
$\frac{1}{4}$	1.75	$4\frac{1}{4}$	56.44	$\frac{1}{2}$	1.38	$4\frac{3}{8}$	46.97
$\frac{3}{4}$	2.39	$4\frac{3}{8}$	59.81	$\frac{3}{4}$	1.87	$4\frac{1}{2}$	49.70
$\frac{1}{8}$	3.12	$4\frac{1}{2}$	63.28	$\frac{1}{2}$	2.45	$4\frac{5}{8}$	52.50
1	3.95	$4\frac{5}{8}$	66.84	$1\frac{1}{8}$	3.10	$4\frac{3}{4}$	55.37
$1\frac{1}{8}$	4.88	$4\frac{3}{4}$	70.50	$1\frac{1}{4}$	3.83	$4\frac{7}{8}$	58.32
$1\frac{1}{4}$	5.90	$4\frac{7}{8}$	74.26	$1\frac{3}{8}$	4.64	5	61.35
$1\frac{3}{8}$	7.03	5	78.12	$1\frac{1}{2}$	5.52	$5\frac{1}{8}$	64.46
$1\frac{1}{2}$	8.25	$5\frac{1}{8}$	82.08	$1\frac{3}{4}$	6.48	$5\frac{1}{4}$	67.64
$1\frac{3}{4}$	9.57	$5\frac{1}{4}$	86.13	$1\frac{7}{8}$	7.51	$5\frac{3}{8}$	70.09
$1\frac{7}{8}$	10.98	$5\frac{3}{8}$	90.28	2	8.62	$5\frac{1}{2}$	74.24
2	12.50	$5\frac{1}{2}$	94.53	$2\frac{1}{8}$	9.81	$5\frac{5}{8}$	77.65
$2\frac{1}{8}$	14.11	$5\frac{5}{8}$	98.87	$2\frac{1}{4}$	11.08	$5\frac{3}{4}$	91.14
$2\frac{1}{4}$	15.81	$5\frac{3}{4}$	103.32	$2\frac{3}{8}$	12.42	$5\frac{1}{3}$	84.71
$2\frac{3}{8}$	17.62	$5\frac{7}{8}$	107.86	$2\frac{1}{2}$	13.84	6	88.35
$2\frac{1}{2}$	19.53	6	112.50		15.33	$6\frac{1}{4}$	95.87

WEIGHT OF SQUARE AND ROUND CAST IRON, ETC.--(CONTINUED).

Square per Foot.			Round per Foot.		
Size.	Weight.	Size.	Weight.	Size.	Weight.
Inches square.	Pounds.	Inches square.	Pounds.	Inches Diam.	Pounds.
$2\frac{5}{8}$	21.53	$6\frac{1}{4}$	122.08	$2\frac{5}{8}$	103.69
$2\frac{3}{4}$	23.63	$6\frac{1}{2}$	132.03	$2\frac{3}{4}$	111.82
$2\frac{7}{8}$	25.83	$6\frac{3}{4}$	142.38	$2\frac{7}{8}$	120.26
3	28.12	7	153.12	3	129.
$3\frac{1}{8}$	30.51	$7\frac{1}{4}$	164.25	$3\frac{1}{8}$	138.05
$3\frac{1}{4}$	33.	$7\frac{1}{2}$	175.78	$3\frac{1}{4}$	147.41
$3\frac{3}{8}$	35.59	$7\frac{3}{4}$	187.68	$3\frac{3}{8}$	157.08
$3\frac{1}{2}$	38.28	8	200.12	$3\frac{1}{2}$	167.05
$3\frac{5}{8}$	41.06	$8\frac{1}{4}$	212.56	$3\frac{5}{8}$	177.19
$3\frac{3}{4}$	43.94	$8\frac{1}{2}$	225.78	$3\frac{3}{4}$	187.91
$3\frac{7}{8}$	46.92	$8\frac{3}{4}$	239.25	$3\frac{7}{8}$	198.79
		9	253.12	4	210.

NAVAL STRENGTH OF GREAT NATIONS.

The following table has been compiled from the latest official reports, and includes all vessels built or approaching completion. As the value of torpedo boats and vessels and torpedo boat destroyers has, during the war with Spain, been shown to be problemctical, they have not been included in the figures in the column showing the totals. Omitting these three classes of vessels in the estimate of the fighting of the nations, it would show that Great Britain is immensely superior to any other nation.

	Battleships.	Armored Cruisers.	Protected Cruisers.	Unprotected Cruisers.	Armored Coast Defense Vessels.	Special Vessels.	Torpedo Boats (1st class).	Torpedo Boat Destroyers.	Torpedo Boats (2d class).	Guns.
Great Britain	70	23	22	168	13	408	44	108	123	10,508
France.	32	25	4	63	23	216	175	14	154	5,020
Russia.	23	12	11	32	16	163	98	38	98	5,013
Germany.....	17	6	6	44	8	106	85	24	56	1,972
Italy.....	15	8	2	37	5	124	22	13	149	2,368
United States	18	8		27	19	138	....	16	37	.....
Japan.....	8	2	5	54	3	53	66	16	....	1,476

NAVAL MILITIA.

The Naval Militia is now organized in 19 States and in the Dist. of Columbia, as follows: California, Connecticut, Dist. of Columbia, Florida, Georgia, Illinois, Louisiana, Maryland, Maine, Massachusetts, Michigan, New Jersey, New York, No. Carolina, Ohio, Oregon, Pennsylvania, Rhode Island, So. Carolina, and Virginia.

The proper duty of the Naval Militia in time of war is to man the coast and harbor defense vessels, thus leaving free the regular force to carry on offensive operations at sea.

All matters relating to the Naval Militia come under the cognizance of the Asst. Secretary of the Navy. Total enlisted force of petty officers and men on January 1, 1900, 5,309. The Navy Department transacts all its business with the Naval Militia through the Governors and Adjutants-General of the States.

CHRONOLOGY OF THE WAR WITH SPAIN, 1898.

- Feb. 15—Maine blown up in Havana harbor; 266 killed.
- March 13—Senator Proctor tells of Cuban horrors.
- March 25—Official report says a mine destroyed the Maine.
- April 4—McKinley declines Pope's intervention.
- April 9—General Lee and Americans leave Havana.
- April 19—Congress recognizes independence of Cuba.
- April 21—American minister in Madrid dismissed; ultimatum not presented.
- April 22—North Atlantic Squadron leaves Key West.
- April 23—President issues call for 125,000 volunteers.
- April 24—Asiatic Squadron sails for the Philippines.
- April 24—Spain declares war.
- April 25—Congress declares war has existed since April 21.
- April 27—Batteries at Matanzas bombarded.
- April 29—Batteries at Cienfuegos bombarded.
- April 30—Batteries at Cabanas bombarded.
- May 1—Spanish fleet at Manila destroyed.
- May 7—Matanzas forts shelled.
- May 9—Fight off Cardenas between Winslow and three Spanish gunboats.
- May 11—Attack on Cienfuegos.
- May 12—San Juan de Porto Rico bombarded.
- May 12—Cardenas shelled.
- May 13—Flying Squadron leaves Hampton Roads.
- May 18—Flying Squadron reaches Key West.
- May 18—New Spanish cabinet under Sagasta.
- May 19—Cervera's squadron in Santiago harbor.
- May 25—President issues second call, for 75,000 volunteers.
- May 25—First Manila expedition leaves.
- May 31—Santiago forts bombarded.
- June 3—Collier Merrimac sunk.
- June 6—Bombardment of Santiago forts.
- June 8—Shafter's force leaves Tampa.
- June 8—Caimanera bombarded.
- June 10—Marines land at Guantanamo.
- June 11—Fight at Guantanamo; Spaniards repulsed.
- June 14—Army sails from Tampa.
- June 15—Second Manila expedition sails.
- June 15—Spanish defeat at Guantanamo.

- June 16--Fort Caimitera demolished.
- June 16--Bombardment of Santiago forts.
- June 20--Shafter's army arrives at Baiquiri.
- June 21--Charleston captures the Ladrones.
- June 22 and 23--Shafter's army lands.
- June 24--Juragua captured.
- June 24--Fight at La Quasina; Spaniards repulsed.
- June 26--Cadiz fleet at Port Said.
- June 26--Shafter occupies Sevilla.
- June 28--Third Manila expedition sails.
- June 29--First expedition arrives at Manila.
- June 30--Caney evacuated by Spaniards.
- July 1--Outer defenses of Santiago taken.
- July 2--San Juan, near Santiago, taken.
- July 3--Shafter demands surrender of Santiago.
- July 3--Cervera's fleet destroyed.
- July 5--Camara's fleet at Suez.
- July 6--Spanish cruiser Alfonso XII. destroyed.
- July 7--Dewey captures Isla Grande and 1,300 prisoners.
- July 8--Camara's fleet ordered to return to Spain.
- July 10--Bombardment of Santiago resumed; Linares refuses unconditional surrender.
- July 13--Truce.
- July 14--Santiago surrenders.
- July 16--General Shafter announces terms of General Toral's surrender.
- July 17--American flag is raised over Santiago de Cuba, and General McKibbin made military governor.
- July 18--War council orders invasion of Porto Rico; Manzanillo bombarded.
- July 20--Spanish Cabinet reported as agreed to ask for peace.
- July 21--General Garcia withdraws his army from Shafter's support.
- July 22--General Miles sails for Porto Rico with an advance guard; American lines close about Manila; General Wood is appointed governor of Santiago.
- July 23--Spaniards continue to surrender; Topeka captures Port Nipe.
- July 24--Shafter reported active; Emperor Wilhelm said to have asked our intentions in the East.
- July 25--General Miles lands at Guanica, Porto Rico.
- July 26--Spain formally sues for peace through the French Ambassador.
- August 12--Peace protocol signed at 4:23 P. M. by Secretary of State Day for the United States, and French Ambassador Cambon for the Spanish government.

RECOGNITION OF CUBAN INDEPENDENCE.

April 18th the following Joint Resolution was adopted in Congress, the Senate agreeing by a vote of 42 to 35, and the House by 310 to 6.

Joint resolution for the recognition of the independence of the people of Cuba, demanding that the government of Spain relinquish its authority and government in the Island of Cuba, and to withdraw its land and naval forces from Cuba and Cuban waters, and directing the President of the United States to use the land and naval forces of the United States to carry these resolutions into effect.

WHEREAS, The abhorrent conditions which have existed for more than three years in the Island of Cuba, so near our own borders, have shocked the moral sense of the people of the United States, have been a disgrace to civilization, culminating, as they have, in the destruction of a United States battleship, with 266 of its officers and crew, while on a friendly visit in the harbor of Havana, and cannot longer be endured, as has been set forth by the President of the United States in his message to Congress of April 11, 1898, upon which the action of Congress was invited: therefore

Resolved, First, That the people of the Island of Cuba are and of right ought to be free and independent.

Second, That it is the duty of the United States to demand, and the government of the United States does hereby demand, that the government of Spain at once relinquish its authority and government in the Island of Cuba and withdraw its land and naval forces from Cuba and Cuban waters.

Third, That the President of the United States be, and he is hereby directed and empowered to use the entire land and naval forces of the United States, and to call into actual service of the United States the militia of the several States, to such extent as may be necessary to carry these resolutions into effect.

Fourth, That the United States hereby disclaims any disposition or intention to exercise sovereignty, jurisdiction or control over said island except for the pacification thereof, and asserts its determination, when that is accomplished, to leave the government and control of the island to its people.

Spanish-American War Tax, 1898

In Effect July 1st, 1898

Beer, ale, and other fermented liquor, per barrel.....	\$ 2.00
Tobacco—Manufactured, per pound.....	.12
Cigars, cigarettes, over 3 lbs., per 1,000.....	3.60
Cigars, under 3 lbs., per 1,000.....	1.00
Cigarettes, under 3 lbs., per 1,000.....	1.50
Tea, imported, per lb.....	.10
Bank capital, including surplus, over \$25,000.00.....	50.00
For each \$1,000 over \$25,000.00.....	2.00
Brokers in negotiable securities.....	50.00
Pawnbrokers.....	20.00
Commercial brokers.....	20.00
Custom house brokers.....	10.00
Theatres, museums, concert halls, in cities of over 25,- 000 inhabitants.....	100.00
Circuses.....	100.00
Other shows and exhibitions.....	10.00
Bowling alleys, billiard rooms, per alley or table.....	5.00
Tobacco—Dealers: Leaf tobacco, sales between 50,000 and 100,000 lbs.....	12.00
Sales over 100,000 lbs.....	24.00
Manufacturers: Sales under 50,000 lbs.....	6.00
Sales between 50,000 and 100,000.....	12.00
Sales over 100,000.....	24.00
Manufacturers of cigars: Sales under 100,000.....	6.00
Sales between 100,000 and 200,000.....	12.00
Sales over 200,000.....	24.00
Stocks, bonds, debentures, certificates of indebtedness issued after July 1st, 1898, per \$100 face value.....	.05
Transfers of stock, per \$100 face value.....	.02
Sales of merchandise, for present or future delivery on exchanges, per \$100.....	.01
Bank check or sight draft.....	.02
Bills of exchange (inland), time draft and promissory note, money orders, for each \$100.....	.02
Bills of exchange (foreign), letter of credit, drawn singly, per \$100.....	.04
In sets of two or more, for each bill.....	.02
Bill of lading or receipt for any goods to be exported..	.10
Bill of lading to be issued by express and transporta- tion companies, per package.....	.01
Telephone messages, charges at 15 cents or over.....	.01
Surety bonds.....	.50
Certificates of profit, memo. showing interest in corpo- ration, or transfers of same, per \$100 face value....	.02
Certificates of damage and certificates of port wardens or marine surveyors.....	.25
Other certificates not specified.....	.10

WAR TAX—Continued.

Charter party, per vessel of 300 tons.....	\$ 3.00
Between 300 and 600.....	5.00
Exceeding 600.....	10.00
Contract, brokers' notes of sale or exchange of goods, stocks, bonds, notes, real estate, etc.....	.10
Conveyances, value between \$100 and \$500.....	.50
Telegraph messages.....	.01
Custom house entry, not over \$100.....	.25
Between one and three years and \$500.....	.50
Over \$500.....	1.00
Custom house entry for withdrawal.....	.50
Insurance (life) for each \$100 of policy.....	.08
Industrial weekly payment plan, 40 per cent. of first weekly payment.....	
Leases, for one year.....	.25
Between one and three years.....	.50
Over three years.....	1.00
Manifest for custom house entry or clearance for for- eign port, per ship of 300 tons.....	1.00
Between 300 and 600 tons.....	3.00
Exceeding 600 tons.....	5.00
Mortgage between \$1,000 and \$1,500.....	.25
For each \$500 additional.....	.25
Passage ticket to foreign port, costing not over \$30...	1.00
Between \$30 and \$60.....	3.00
Over \$60.....	5.00
Power of attorney to vote.....	.10
To sell, rent or collect.....	.25
Protests of notes, etc.....	.25
Warehouse receipts.....	.25
Medicinal proprietary articles and perfumery, cosmet- ics, etc., per package of 5 cents, retail price.....	.00125
Between 12 and 25 cents.....	.00625
Chewing gum, per package of \$1.00 retail.....	.04
Sparkling or other wines, per pint bottle.....	.01
Petroleum and sugar refining or transporting oil or other products by pipe line, excise tax on gross re- ceipts exceeding \$250,000, .0025 per cent.....	
Palace or parlor car seats or berths, per seat or berth..	.01
Legacies between \$10,000 and \$25,000 to lineal de- scendant, or brother or sister of testator, per \$100 clear value.....	.75
To descendants of brother or sister of testator.....	1.50
To brother or sister of father or mother of testator, or their descendants.....	3.00
To brother or sister of grandparents of testator, or their descendants.....	4.00
To other beneficiaries.....	5.00
Tax on legacies between \$25,000 and \$100,000, multi- plied by one and one-half.....	
Between \$100,000 and \$500,000, multiplied by two,	
Between \$500,000 and \$1,000,000, multiplied by two and one-half.....	
Over \$1,000,000, multiplied by three.....	
Mixed flour, dealers, per annum.....	12.00
Per package, imports included, bet. 98 and 196 lbs..	.04

THE MOST IMPORTANT FEATURES OF THE NATIONAL BANKRUPTCY LAW OF 1898

FROM CHAP. I. (DEFINITIONS.)

(1) "A person against whom a petition has been filed" shall include a person who has filed a voluntary petition; (2) "adjudication" shall mean the date of the entry of a decree that the defendant, in a bankruptcy proceeding, is a bankrupt, or if such decree is appealed from, then the date when such decree is finally confirmed; (3) "appellate courts" shall include the circuit courts of appeals of the United States, the supreme courts of the Territories, and the Supreme Court of the United States; (4) "bankrupt" shall include a person against whom an involuntary petition or an application to set a composition aside or to revoke a discharge has been filed, or who has filed a voluntary petition, or who has been adjudged a bankrupt; (5) "corporations" shall mean all bodies having any of the powers and privileges of private corporations not possessed by individuals or partnerships, and shall include limited or other partnership associations organized under laws making the capital subscribed alone responsible for the debts of the association; (6) "creditor" shall include any one who owns a demand or claim provable in bankruptcy, and may include his duly authorized agent, attorney, or proxy; (7) "date of bankruptcy," or "time of bankruptcy," or "commencement of proceedings," or "bankruptcy," with reference to time, shall mean the date when the petition was filed; (8) "debt" shall include any debt, demand or claim provable in bankruptcy; (9) "discharge" shall mean the release of a bankrupt from all of his debts which are provable in bankruptcy, except such as are excepted by this act; (10) "document" shall include any book, deed, or instrument in writing; (11) "holiday" shall include Christmas, the Fourth of July, the Twenty-second of February, and any day appointed by the President of the United States or the Congress of the United States as a holiday or as a day of public fasting or thanksgiving; (12) a person shall be deemed insolvent within the provisions of this act whenever the aggregate of his property, exclusive of any property which he may have conveyed, transferred, concealed or removed, or permitted to be concealed or removed, with intent to defraud, hinder or delay his creditors, shall not, at a fair valuation, be sufficient in amount to pay his debts; (13) "judge" shall mean a judge of a court of bankruptcy, not including the referee; (14) "oath" shall include affirmation; (15) "officer" shall include clerk, marshal, receiver, referee, and trustee, and the imposing of a duty upon or the forbidding of an act by any officer shall include his successor and any person au-

thorized by law to perform the duties of such officer; (16) "persons" shall include corporations, except where otherwise specified, and officers, partnerships and women, and when used with reference to the commission of acts which are herein forbidden shall include persons who are participants in the forbidden acts, and the agents, officers and members of the board of directors or trustees, or other similar controlling bodies of corporations; (17) petition shall mean a paper filed in a court of bankruptcy or with a clerk or deputy clerk by a debtor praying for the benefits of this act, or by creditors alleging the commission of an act of bankruptcy by a debtor therein named; (18) "referee" shall mean the referee who has jurisdiction of the case or to whom the case has been referred, or anyone acting in his stead; (19) "conceal" shall include secrete, falsify, and mutilate; (20) "secured creditor" shall include a creditor who has security for his debt upon the property of the bankrupt of a nature to be assignable under this Act, or who owns such a debt for which some indorser, surety, or other persons secondarily liable for the bankrupt has such security upon the bankrupt's assets; (21) "States" shall include the Territories, the Indian Territory, Alaska, and the District of Columbia; (22) "transfer" shall include the sale and every other and different mode of disposing of or parting with property, or the possession of property, absolutely or conditionally, as a payment, pledge, mortgage, gift or security; (23) "trustee" shall include all of the trustees of an estate; (24) "wage-earner" shall mean an individual who works for wages, salary or hire, at a rate of compensation not exceeding one thousand five hundred dollars per year; (25) words importing the masculine gender may be applied to and include corporations, partnerships and women; (26) words importing the plural number may be applied to and mean only a single person or thing; (27) words importing the singular number may be applied to and mean several persons or things.

FROM CHAP. III. (BANKRUPTS.)

Sec. 3. Acts of Bankruptcy.—(a) Acts of bankruptcy by a person shall consist of his having (1) conveyed, transferred, concealed, or removed, or permitted to be concealed or removed, any part of his property with intent to hinder, delay or defraud his creditors, or any of them; or (2) transferred, while insolvent, any portion of his property to one or more of his creditors with intent to prefer such creditors over his other creditors; or (3) suffered or permitted, while insolvent, any creditor to obtain a preference through legal proceedings, and not having at least five days before a sale or final disposition of any property affected by such preference vacated or discharged such preference; or (4) made a general assignment for the benefit of his creditors; or

(5) admitted in writing his inability to pay his debts and his willingness to be adjudged a bankrupt on that ground.

Sec. 4. Who May Become Bankrupts.—(a) Any person who owes debts, except a corporation, shall be entitled to the benefits of this Act as a voluntary bankrupt.

(b) Any natural person, except a wage-earner or a person engaged chiefly in farming or the tillage of the soil, any unincorporated company, and any corporation engaged principally in manufacturing, trading, printing, publishing, or mercantile pursuits, owing debts to the amount of one thousand dollars or over, may be adjudged an involuntary bankrupt upon default or an impartial trial, and shall be subject to the provisions and entitled to the benefits of this Act. Private bankers, but not national banks or banks incorporated under State or Territorial laws, may be adjudged involuntary bankrupts.

Sec. 5. Partners.—(a) A partnership, during the continuation of the partnership business, or after its dissolution and before the final settlement thereof, may be adjudged a bankrupt.

Sec. 7. Duties of Bankrupts.—(a) The bankrupt shall (1) attend the first meeting of his creditors, if directed by the court or a judge thereof to do so, and the hearing upon his application for a discharge, if filed; (2) comply with all lawful orders of the court; (3) examine the correctness of all proofs of claims filed against his estate; (4) execute and deliver such papers as shall be ordered by the court; (5) execute to his trustee transfers of all his property in foreign countries; (6) immediately inform his trustee of any attempt, by his creditors or other persons, to evade the provisions of this Act, coming to his knowledge; (7) in case of any person having to his knowledge proved a false claim against his estate, disclose that fact immediately to his trustee; (8) prepare, make oath to and file in court within ten days, unless further time is granted, after the adjudication, if an involuntary bankrupt, and with the petition in a voluntary bankrupt, a schedule of his property, showing the amount and kind of property, the location thereof, its money value in detail, and a list of his creditors, showing their residences, if known, if unknown, that fact to be stated, the amounts due each of them, the consideration thereof, the security held by them, if any, and a claim for such exemptions as he may be entitled to, all in triplicate, one copy of each for the clerk, one for the referee, and one for the trustee; and (9) when present at the first meeting of his creditors, and at such other times as the court shall order, submit to an examination concerning the conducting of his business, the cause of his bankruptcy, his dealings with his creditors and other persons, the amount, kind and whereabouts of his property, and, in addi-

tion, all matters which may affect the administration and settlement of his estate; but no testimony given by him shall be offered in evidence against him in any criminal proceeding.

Provided, however, That he shall not be required to attend a meeting of his creditors, or at or for an examination at a place more than one hundred and fifty miles distant from his home or principal place of business, or to examine claims except when presented to him, unless ordered by the court, or a judge thereof, for cause shown, and the bankrupt shall be paid his actual expenses from the estate when examined or required to attend at any place other than the city, town or village of his residence.

Sec. 12. Compositions, When Confirmed.—A bankrupt may offer terms of composition to his creditors after, but not before, he has been examined in open court or at a meeting of his creditors and filed in court the schedule of his property and list of his creditors, required to be filed by bankrupts.

Sec. 14. Discharges, When Granted.—(a) Any person may, after the expiration of one month and within the next twelve months subsequent to being adjudged a bankrupt, file an application for a discharge in the court of bankruptcy in which the proceedings are pending; if it shall be made to appear to the judge that the bankrupt was unavoidably prevented from filing it within such time, it may be filed within but not after the expiration of the next six months.

Sec. 17. Debts Not Affected by a Discharge.—(a) A discharge in bankruptcy shall release a bankrupt from all of his provable debts, except such as (1) are due as a tax levied by the United States, the State, county, district, or municipality in which he resides; (2) are judgments in actions for frauds, or obtaining property by false pretenses or false representations, or for willful and malicious injuries to the person or property of another; (3) have not been duly scheduled in time for proof and allowance, with the name of the creditor, if known to the bankrupt, unless such creditor had notice or actual knowledge of the proceedings in bankruptcy; or (4) were created by his fraud, embezzlement, misappropriation, or defalcation while acting as an officer or in any fiduciary capacity.

Sec. 19. Jury Trials.—A person against whom an involuntary petition has been filed shall be entitled to have a trial by jury, in respect to the question of his insolvency, except as herein otherwise provided, and any act of bankruptcy alleged in such petition to have been committed, upon filing a written application therefor at or before the time within which an answer may be filed. If such application is not filed within such time, a trial by jury shall be deemed to have been waived.

Rate of Annual Income on Investments, PAR VALUE BEING \$100, BEARING INTEREST AT

Price Paid.	Five Per cent.	Six Per cent.	Seven Per cent.	Eight Per cent.	Ten Per cent.
\$50	10.00	12.00	14.00	16.00	20.00
55	9.09	10.90	12.72	14.55	18.18
60	8.33	10.00	11.66	13.33	16.66
65	7.69	9.23	10.76	12.30	15.38
70	7.14	8.57	10.00	11.42	14.28
75	6.66	8.00	9.33	10.66	13.35
80	6.25	7.50	8.75	10.00	12.50
82½	6.06	7.27	8.48	9.69	11.12
85	5.88	7.05	8.23	9.41	11.76
87½	5.71	6.85	8.00	9.14	11.42
90	5.55	6.66	7.77	8.88	11.11
92½	5.40	6.48	7.56	8.64	10.80
95	5.26	6.31	7.36	8.42	10.52
96	5.20	6.25	7.29	8.33	10.41
97	5.15	6.18	7.21	8.24	10.30
97½	5.12	6.15	7.17	8.20	10.25
98	5.10	6.12	7.14	8.16	10.20
99	5.05	6.06	7.07	8.08	10.10
100	5.00	6.00	7.00	8.00	10.00
101	4.95	5.94	6.93	7.92	9.90
102	4.90	5.88	6.86	7.84	9.80
103	4.85	5.82	6.79	7.76	9.70
104	4.80	5.76	6.73	7.69	9.61
105	4.76	5.71	6.66	7.61	9.52
110	4.54	5.45	6.36	7.27	9.09
115	4.34	5.21	6.08	6.95	8.69
120	4.16	5.00	5.83	6.66	8.33
125	4.00	4.90	5.60	6.40	8.00
130	3.84	4.61	5.38	6.15	7.69
135	3.70	4.44	5.18	5.92	7.40
140	3.57	4.28	5.00	5.71	7.14
145	3.44	4.13	4.82	5.51	6.89
150	3.33	4.00	4.66	5.33	6.66
160	3.20	3.75	4.40	5.00	6.40

Greatest Tunnels in the World.

Mount St. Gothard, 49,170 feet long (the longest in the world);
 Mount Ceniz, 40,620 feet long; Hoosac, 23,700 feet long; Thames,
 1,680 feet long; Harecastle, 8,778 feet long; Kilsby, 6,210 feet long;
 Baltimore, 32,400 feet long.

PLAYING-CARDS. — In 1882 there were manufactured, in
 Germany alone, 4,500,000 packs of playing-cards.

UNIVERSITY BOAT RACING—INTERNATIONAL RACING.

1875, September 1. Yale four beat Columbia four at the Centennial Regatta, rowed over a mile and a half course on the Schuylkill, in 9.10%; Columbia, 9.21. A four from First Trinity College, Cambridge, Eng., was entered, but withdrew by reason of illness of one of the four.

1878, a Columbia College four won the Visitors' Challenge Cup at Henley Regatta, Eng., in 8.42. 1895, July 9. At Henley Regatta. Cornell rowed over the course and was awarded the heat, the Leander crew having withdrawn from the race. July 10 Trinity Hall beat Cornell by eight lengths.

1896, July 7. Henley-on-Thames Royal Regatta, 1 5-16 mile, eight-oared shells, for the Grand Challenge Cup Yale University (Am.) beaten by Leander Rowing Club (Eng.) in first round of trial heats.

Harvard and Yale University Eights.

The Harvard and Yale University "eights" have rowed as follows—distance, four miles straight:

DATE.	Course.	Winner.	Time.	Loser.	Time.
July 1, 1880.....	New London, Conn.....	Yale.....	24.27	Harvard.....	25.09
July 1, 1881.....	".....	".....	22.13	".....	22.19
June 30, 1882.....	".....	Harvard.....	20.47	Yale.....	20.50 1/2
June 28, 1883.....	".....	".....	24.26	".....	25.59
June 26, 1884.....	".....	Yale.....	20.31	Harvard.....	20.46
June 26, 1885.....	".....	Harvard.....	25.15 1/2	Yale.....	26.30
July 2, 1886.....	".....	Yale.....	20.41 1/4	Harvard.....	21.05 3/4
July 1, 1887.....	".....	".....	22.56	".....	23.10 3/4
June 29, 1888.....	".....	".....	20.10	".....	21.24
June 29, 1889.....	".....	".....	21.30	".....	21.55
June 27, 1890.....	".....	".....	21.29	".....	21.40
June 26, 1891.....	".....	".....	21.23	Yale.....	21.57
July 1, 1892.....	".....	Harvard.....	20.48	Harvard.....	21.42 1/2
June 30, 1893.....	".....	Yale.....	25.01 1/2	".....	25.15
June 28, 1894.....	".....	".....	22.47	".....	24.40
June 28, 1895.....	".....	".....	21.30	".....	22.05
June 29, 1899.....	".....	Harvard.....	20.52 1/2	Yale.....	21.13
June 28, 1900.....	".....	Yale.....	21.12 4/5	Harvard.....	21.37 2-5

AUSTRALIAN BALLOT SYSTEM.

INSTRUCTIONS FOR VOTERS

In Conformity with the Illinois State Laws.*

When entering the voting place, give your name, and if required, your residence, to the Judges of Election.

If your name be found on the Register, you will be permitted to enter the enclosed space inside the guard rail. Then, if your vote be not challenged, one of the Judges will hand you a Ballot, on the back of which he must write his initials. If your name be not on the Register, or has been erased, you cannot vote.

If your vote be challenged you will not receive a Ballot until you have established your right to vote, either under oath to the Judges of Election, or by affidavit.

When you have received a ballot retire at once, alone, into one of the voting booths, and prepare your ballot for the ballot box by marking it as the law prescribes.

At the top of each column you will find the name of each party ticket or list of candidates, as Democratic, Republican, Prohibition, etc. The names of all the candidates of each party and each group of petitioners are to be found in that column directly beneath the name of the party, and nowhere else.

At the left of the party name, or heading of the different tickets, will be a circle half-inch in diameter, thus: 

At the left of each name on the ballot will be a square quarter-inch on each side, thus:  To prepare your

ballot for voting, you must mark it with a cross, thus: **X**, either in the circle at the top of the ticket, or in the square before the name of each candidate for whom you wish to vote; you can make this cross either with a pen or pencil.

Do not mark your ballot in any way, except as directed below, and do not erase any names.

The law of most states using the Australian ballot system, permits four methods of marking the ballots for voting, as follows:

1. To vote for all candidates of a party, that is to vote a straight party ticket, mark a cross in the circle at the head of the ticket of your choice, thus:  A ballot so marked will be counted for all the candidates in the column under the circle so marked.

* Similar laws, differing only in unimportant details, are in use in a majority of the States of the Union.

2. To split or scratch a ballot make a cross in the circle at the head of the ticket of your choice, and then make a cross in the square before the name or names of any candidates for whom you want to vote on any other ticket or tickets. A ballot so marked will be counted for all of the candidates on the ticket under the circle marked, except for the offices for which the names of candidates are marked on the other ticket or tickets on the ballot, and the latter will be counted for the candidates marked in the square on those tickets. But voters are cautioned against marking a ballot by this method when there is more than one candidate to be elected to the same office on the same ballot, as in case of Presidential Electors, Congressman-at-Large, etc. The law says: "If the voter marks more names than there are persons to be elected to an office, his ballot shall not be counted for such office." Therefore, if you wish to split your ticket on Presidential Electors, Congressmen-at-Large, etc., you should do so by placing a cross (X) opposite the names of all those you wish to vote for, but you must be careful not to make a cross (X) opposite the names of more than the number of men to be elected for each office. When there is but one candidate to be elected to the same office on the same ballot, the danger of confusion above pointed out does not arise. A safe way to "split" a ticket, however, is to mark the name of each candidate for whom you want to vote in the squares and leave the circle blank.

3. Another method of marking a ballot, that is, to vote for some of the candidates on one ticket and remaining candidates on another ticket, leave all the circles blank and mark a cross in the square to the left of each candidate of your choice. A ballot so marked will be counted only for the candidate marked. But be careful not to mark more names than there are persons to be elected to office, or your ballot will not be counted for such office.

4. If the voter desires to vote for a candidate not on the ticket of his choice, he may write in the name of the candidate of his choice in the blank space on the ticket, making a cross (X) before the name written in.

Where the word ballot is used in this instruction the entire sheet given to the voter by the Judge of Election is meant.

Where the word ticket is used, only a single party group of candidates is meant.

In voting on any proposition submitted to vote, and printed on the ballot, make a cross (X), mark in the column opposite the headings "Yes" or "No," and your

ballot will be counted "for," if you mark opposite "Yes," and "against," if you mark opposite "No."

Before leaving the voting booth fold your ballot so as to conceal the marks, and to expose the official endorsement on the back.

Leave the booth and hand your ballot to the judge in charge of the ballot box, who, without numbering it, must deposit it in the box.

You will not be allowed to occupy a voting booth with another voter.

You will not be allowed to occupy a booth more than five minutes, if others are waiting to vote.

You will not be allowed to remain in the enclosed space more than ten minutes, and you must quit it as soon as you have voted.

You will not be allowed to re-enter the enclosed space, after you have voted, during the election.

You will not be allowed to take a ballot from the polling place.

You will not be allowed to vote any ballot except the one you received from the judges.

If you spoil a ballot in preparing it, you must return it and ask for another in the place of it. Do not vote a torn or mutilated ballot.

If a voter will declare upon oath that he cannot read the English language, or that by reason of physical disability he is unable to mark his ballot, upon request he will be assisted by two of the election officers, appointed for that purpose, of opposite political parties. These officers will mark the ballot as directed by the voter.

Intoxication will not be regarded as a physical disability, and if a voter is intoxicated, he will receive no assistance in marking his ballot.

The polls will be opened at 6 o'clock in the morning and closed at 4 o'clock in the evening. Between these hours voters are entitled to absent themselves from their place of employment for the period of two hours for the purpose of voting. They will not be liable to any penalty for their absence, nor shall any deduction be made from their wages or salary on that account; but they must ask for leave of absence before the day of election, and their employer may specify the hours during which they may be absent.

These are the prescriptions of the law as practiced in Illinois. For details and slight changes in other states, consult the Election Commissioners in your district.

COST OF ROYALTY IN ENGLAND.

POUNDS REDUCED TO DOLLARS.

The Queen—Privy Purse.....	\$ 300,000
Household Expenses and Sundries	1,625,000
	\$1,925,000
Prince of Wales.....	200,000
Princess of Wales.....	50,000
Children of the Prince of Wales (in trust).....	180,000
Queen's Children—German Empress Frederick	40,000
Duke of Edinburgh.....	125,000
Princess Christian of Schleswig-Holstein..	30,000
Princess Louise (Lorne).....	30,000
Duke of Connaught.....	125,000
Princess Beatrice (Battenberg).....	30,000
Duchess of Albany (daughter-in-law).....	30,000
Queen's Cousins—Duke of Cambridge.....	60,000
Duchess of Mecklenburg-Strelitz.....	15,000
Duchess of Teck.....	25,000
Other Royal Pensions, together.....	125,305
Total.....	\$2,990,305

RULES FOR SPELLING.

Words ending in *e* drop that letter before the termination *able*, as in *move*, *moveable*; unless ending in *ce* or *ge*, when it is retained, as in *change*, *changeable*, etc.

Words of one syllable, ending in a consonant, with a single vowel before it, double the consonants in derivatives; as, *ship*, *shipping*, etc. But if ending in a consonant with a double vowel before it, they do not double the consonant in derivatives; as *troop*, *trooper*, etc.

Words of more than one syllable, ending in a consonant preceded by a single vowel, and accented on the last syllable, double that consonant in derivatives; as *commit*, *committed*; but except *chagrin*, *chagrined*.

All words of one syllable ending in *l*, with a single vowel before it, have double *ll* at the close; as *mill*, *sell*.

All words of one syllable ending in *l*, with a double vowel before it, have only one *l* at the close; as *mail*, *sail*.

The words *foretell*, *distill*, *instill* and *fulfill*, retain the double *ll* of their primitives. Derivatives of *dull*, *skill*, *will* and *full* also retain the *ll* when the accent falls on these words; as *dullness*, *skillful*, *willful*, *fullness*.

Words of more than one syllable ending in *l* have only one *l* at the close; as delightful, faithful; unless the accent falls on the last syllable; as befall, etc.

Words ending in *l*, double the letter in the termination *ly*.

Participles ending in *ing*, from verbs ending in *e*, lose the final *e*; as have, having; make, making, etc.; but verbs ending in *ee* retain both; as see, seeing. The word dye, to color, however, must retain the *e* before *ing*.

All verbs ending in *ly*, and nouns ending in *ment*, retain the *e* final of the primitives; as brave, bravely; refine, refinement; except words ending in *dge*; as acknowledge, acknowledgment.

Nouns ending in *y*, preceded by a vowel, form their plural by adding *s*; as money, moneys; but if *y* is preceded by a consonant, it is changed to *ies* in the plural; as bounty, bounties.

Compound words whose primitives end in *y*, change the *y* into *i*; as beauty, beautiful.

THE USE OF CAPITALS.

1. Every entire sentence should begin with a capital.
2. Proper names, and adjectives derived from these, should begin with a capital.
3. All appellations of the Deity should begin with a capital.
4. Official and honorary titles begin with a capital.
5. Every line of poetry should begin with a capital.
6. Titles of books and the heads of their chapters and divisions are printed in capitals.
7. The pronoun *I* and the exclamation *O* are always capitals.
8. The days of the week and the months of the year begin with capitals.
9. Every quotation should begin with a capital letter.
10. Names of religious denominations begin with capitals.
11. In preparing accounts, each item should begin with a capital.
12. Any word of very special importance may begin with a capital.

Savings Bank Compound Interest Table.

Showing the amount of \$1, from 1 year to 15 years, with Compound Interest added semi-annually, at different rates.

	Ten Per cent.	Nine Per cent.	Eight Per cent.	Seven Per cent.	Six Per cent.	Five Per cent.	Four Per cent.	Three Per cent.
15 years.	\$4.32	\$3.74	\$3.24	\$2.80	\$2.42	\$2.09	\$1.80	\$1.56
14 "	3.62	3.42	2.99	2.62	2.28	1.99	1.73	1.51
13 "	3.55	3.14	2.77	2.44	2.15	1.90	1.67	1.47
12 "	3.22	2.87	2.56	2.28	2.03	1.80	1.60	1.42
11 "	2.92	2.63	2.36	2.13	1.91	1.72	1.54	1.38
10 "	2.65	2.41	2.19	1.98	1.80	1.63	1.48	1.34
9½ "	2.52	2.30	2.10	1.92	1.75	1.59	1.45	1.32
9 "	2.40	2.20	2.02	1.85	1.70	1.55	1.42	1.30
8½ "	2.29	2.11	1.94	1.79	1.65	1.52	1.39	1.28
8 "	2.18	2.02	1.87	1.73	1.60	1.48	1.37	1.26
7½ "	2.07	1.93	1.80	1.67	1.55	1.44	1.34	1.24
7 "	1.97	1.85	1.73	1.61	1.51	1.41	1.31	1.23
6½ "	1.88	1.77	1.66	1.56	1.46	1.37	1.29	1.21
6 "	1.79	1.69	1.60	1.51	1.42	1.34	1.26	1.19
5½ "	1.71	1.62	1.53	1.45	1.38	1.31	1.24	1.17
5 "	1.62	1.55	1.48	1.41	1.34	1.28	1.21	1.16
4½ "	1.55	1.48	1.42	1.36	1.30	1.24	1.19	1.14
4 "	1.47	1.42	1.36	1.31	1.26	1.21	1.17	1.12
3½ "	1.40	1.36	1.31	1.27	1.22	1.18	1.14	1.10
3 "	1.34	1.30	1.26	1.22	1.19	1.15	1.12	1.09
2½ "	1.27	1.24	1.21	1.18	1.15	1.13	1.10	1.07
2 "	1.21	1.19	1.16	1.14	1.12	1.10	1.08	1.06
1½ "	1.15	1.14	1.12	1.10	1.09	1.07	1.06	1.04
1 "	1.10	1.09	1.08	1.07	1.06	1.05	1.04	1.03
½ "	1.05	1.04	1.04	1.03	1.03	1.02	1.02	1.01

ONE DOLLAR LOANED 100 YEARS at Compound Interest would amount to the following sum:

24 per cent.	\$2,351,799,404.00	10 per cent.	\$13,809.00
18 "	15,145,207.00	6 "	340.00
15 "	1,174,405.00	3 "	19.25
12 "	84,675.00	1 "	2.75

Safe Business Rules.

Business men, in business hours, attend only to business matters. Social calls are best adapted to the social circle. Make your business known in few words, without loss of time. Let your dealings with a stranger be most

carefully considered, and tried friendship duly appreciated. A mean act will soon recoil, and a man of honor will be esteemed. Leave "tricks of trade" to those whose education was never completed. Treat all with respect, confide in few, wrong no man. Be never afraid to say no, and always prompt to acknowledge and rectify a wrong. Leave nothing for to-morrow that should be done to-day. Because a friend is polite, do not think that his time is valueless. Have a place for every thing, and every thing in its place. To preserve long friendship, keep a short credit; the way to get credit is to be punctual; the way to preserve it is not to use it much. Settle often; have short accounts. Trust no man's appearances; they are often deceptive, and assumed for the purpose of obtaining credit. Rogues generally dress well. The rich are generally plain men. Be well satisfied before you give a credit that those to whom you give it are safe men to be trusted.

Time at which Money Doubles at Interest.

<i>Rate per cent.</i>	<i>Simple Interest.</i>	<i>Compound Interest.</i>
10.....	10 years.	7 years 100 days.
9.....	11 years 40 days.	8 years 16 days.
8.....	12½ years.	9 years 2 days.
7.....	14 years 104 days.	10 years 89 days.
6.....	16 years 8 months.	11 years 327 days.
5.....	20 years.	15 years 75 days.
4½.....	22 years 81 days.	15 years 273 days.
4.....	25 years.	17 years 246 days.
3½.....	28 years 208 days.	20 years 54 days.
3.....	33 years 4 months.	23 years 164 days.
2½.....	40 years.	28 years 26 days.
2.....	50 years.	35 years 1 day.

Legal Brevities.

A note dated on Sunday is void. A note obtained by fraud, or from one intoxicated, is void. If a note be lost or stolen, it does not release the maker, he must pay it. An endorser of a note is exempt from liability, if not served with notice of its dishonor within 24 hours of its non-payment. A note by a minor is void. Notes bear interest only when so stated. Principals are responsible for their agents. Each individual in partnership is responsible for the whole amount of the debts of the firm.

Ignorance of the law excuses no one. It is a fraud to conceal a fraud. It is illegal to compound a felony. The law compels no one to do impossibilities. An agreement without consideration is void. Signatures in lead pencil are good in law. A receipt for money is not legally conclusive. The acts of one partner bind all the others. Contracts made on Sunday cannot be enforced. A contract with a minor is void. A contract made with a lunatic is void. Written contracts concerning land must be under seal

AMERICAN SHIPPING.

UNITED STATES VESSELS, 1900.

CLASS.	Engaged in Foreign Trade.		Engaged in Coastwise Trade.	
	Num-ber.	Ton-nage.	Num-ber.	Ton-nage.
Steamers... ..	328	337,356	6,715	2,316,455
Sailing-vessels.....	960	479,439	13,853	1,970,061
Canal-boats.....				
Barges.....				
Total	1,288	816,795	20,568	4,286,516

The entire number of documented vessels was 23,333, of which 7,053 were steamers and 16,280 were vessels other than steamers, all aggregating 5,164,839 tons.

The estimated value of the whole amount of floating property under the flag, according to the census of 1890, was \$215,069,296. The statistics of the above table are for the fiscal year ending June 30, 1900.

THE CHILD'S PROPHECIES.

Monday's child is fair of face;
 Tuesday's child is full of grace;
 Wednesday's child is merry and glad;
 Thursday's child is sorry and sad;
 Friday's child is loving and giving;
 Saturday's child must work for his living;
 Sunday's child is blithe, bonny, good and gay.

TAX ON COMMERCIAL TRAVELERS.

The following is a list of places and amount of taxation on commercial travelers: Alabama, \$15.50 per year; Arizona, \$200 per year; Beaufort, S. C., \$10 per visit; Bennettsville, S. C., \$1 per visit; Batesburg, S. C., 75 cents per day; Charleston, S. C., \$10 per month; Cumberland, Md., \$1 per day; Delaware, \$25 per year; Deadwood, D. T., \$5 per week; Darlington, S. C., \$1; East St. Louis, \$2 per day; Elkton, Md., per cent. on stock carried; Florida, \$25 per year; Hartwell, Ga., \$5 per trip; Johnston, S. C., 50 cents per day; Lewistown, Idaho, \$5 per trip; Montana, \$100 per year for each county; Memphis, Tenn., \$10 per week or \$25 per month; Mobile, Ala., \$3 per day or \$7 a week; Natchez, Miss., 25 cents per day; New Orleans, La., \$50 per year; Newport, Ky., \$1 per month; North Carolina, \$100 per year; Nevada, \$100 per year; Orangeburg, S. C., \$2 per day; St. Matthews, S. C., \$1 per day; San Francisco, Cal., \$25 per quarter; Texas, \$35 a year; Tucson, Arizona, \$50 per quarter; Tombstone, Arizona, \$10 per day; Virginia, \$75 per year; Wilmington, N. C., \$3 per day; Washington, D. C., \$200 per year; Walhalla, S. C., \$1 per day.

Durability of Different Woods.

Experiments have been made by driving sticks, made of different woods, each two feet long and one and one-half inches square, into the ground, only one-half an inch projecting outward. It was found that in five years, all those made of oak, elm, ash, fir, soft mahogany, and nearly every variety of pine, were totally rotten. Larch, hard pine and teak wood were decayed on the outside only; while acacia, with the exception of being also slightly attacked on the exterior, was otherwise sound. Hard mahogany and cedar of Lebanon were in tolerably good condition; but only Virginia cedar was found as good as when put in the ground. This is of some importance to builders, showing what wood should be avoided, and what others used by preference in underground work.

The duration of wood, when kept dry, is very great, as

beams still exist which are known to be 1,100 years old. Piles driven by the Romans prior to the Christian era, have been examined of late, and found perfectly sound, after an immersion of nearly 2,000 years.

The wood of some tools will last longer than the metals; as in spades, hoes and plows. In other tools the wood is first gone; as in wagons, wheel-barrows and machines. Such wood should be painted or oiled; the paint not only looks well, but preserves the wood; petroleum oil is as good as any other;

Hardwood stumps decay in five or six years; spruce stumps decay in about the same time; hemlock stumps in eight to nine years; cedar, eight to nine years; pine stumps, never.

Cedar, oak, yellow pine and chestnut are the most durable woods in dry places.

THE STATES AND THE UNION.—THIRTEEN ORIGINAL STATES.

States.	Ratified the Constitution.	States.	Ratified the Constitution.
1 Delaware,	1787, Dec. 7.	8 S. Carolina,	1788, May 23.
2 Pennsylv'a,	1787, Dec. 12.	9 New Ham.	1788, June 21.
3 New Jersey	1787, Dec. 18.	10 Virginia,	1788, June 25.
4 Georgia,	1788, Jan. 2.	11 New York,	1788, July 26.
5 Conn.	1788, Jan. 9.	12 N. Carolina	1789, Nov. 21.
6 Mass.	1788, Feb. 6.	13 R. Island,	1790, May 29.
7 Maryland,	1788, April 28.		

STATES ADMITTED TO THE UNION.

States.	Admitted.	States.	Admitted.
1 Vermont,	1791, March 4.	17 Wisconsin,	1848, May 29.
2 Kentucky,	1792, June 1.	18 California,	1850, Sept. 9.
3 Tennessee,	1796, June 1.	19 Minnesota,	1858, May 11.
4 Ohio.	1802, Nov. 29.	20 Oregon,	1859, Feb. 14.
5 Louisiana,	1812, April 30.	21 Kansas,	1861, Jan. 29.
6 Indiana,	1816, Dec. 11.	22 W. Virginia	1863, June 19.
7 Mississippi	1817, Dec. 10.	23 Nevada,	1864, Oct. 31.
8 Illinois,	1818, Dec. 3.	24 Nebraska,	1867, March 1.
9 Alabama,	1819, Dec. 14.	25 Colorado,	1876, Aug. 1.
10 Maine,	1820, March 15.	26 N. Dakota,	1889, Nov. 3.
11 Missouri,	1821, Aug. 10.	27 S. Dakota,	1889, Nov. 3.
12 Arkansas,	1836, June 15.	28 Montana,	1889, Nov. 8.
13 Michigan,	1837, Jan. 26.	29 Washing'n,	1889, Nov. 11.
14 Florida,	1845, March 3.	30 Idaho,	1890, July 3.
15 Texas,	1845, Dec. 29.	31 Wyoming.	1890, July 8.
16 Iowa,	1846, Dec. 28.	32 Utah	1896, Jan. 4.

RATES OF POSTAGE.

Letters.—Prepaid by stamps, 2 cents each ounce or fraction thereof to all parts of the United States and Canada; forwarded to another postoffice without charge on request of the person addressed; if not called for, returned to the writer free, if indorsed with that request. If the stamp is omitted, the letter is forwarded to the Dead Letter Office, and returned to the writer. For Registering letters the charge is 10 cents additional. Drop letters at letter-carrier offices, 2 cents per ounce or fraction thereof; at other offices, 1 cent per ounce or fraction thereof. On insufficiently prepaid matter mailed in Canada, 3 cents per $\frac{1}{2}$ ounce or fraction thereof. Stamped Postal Cards, furnished only by Government, 1 cent each. If anything except a printed address slip is pasted on a Postal Card, or anything but the address written on the face, letter postage is charged. Postage on all newspapers and periodicals sent from newspaper offices to any part of the United States, to regular subscribers, must be paid in advance at the office of mailing.

Second-Class Matter.—Periodicals issued at regular intervals—at least four times a year—and having a regular list of subscribers, with supplement, sample copies, 1 cent a pound; periodicals, other than weekly, if delivered by letter-carrier, 1 cent each; if over 2 ounces, 2 cents each. When sent by other than publishers, for 4 ounces or less, 1 cent.

Third-Class Matter (not exceeding 4 pounds).—Printed matter, books, proof-sheets, corrected or uncorrected, unsealed circulars, inclosed so as to admit of easy inspection without cutting cords or wrapper, 1 cent for each 2 ounces.

Fourth-Class Matter.—Not exceeding 4 pounds, embracing merchandise and samples, excluding liquids, poisons, greasy, inflammable or explosive articles, live animals, insects, etc., 1 cent an ounce. Postage to Canada and British North American States, 2 cents per ounce; must be prepaid; otherwise, 6 cents.

Number of Years Seeds Retain Their Vitality.

<i>Vegetables.</i>	<i>Years.</i>
Artichoke	5 to 6
Asparagus	2 to 3
Beans	2 to 3
Beets	3 to 4
Broccoli	5 to 6
Cucumber	8 to 10
Cauliflower	5 to 6
Cress	3 to 4
Carrots	2 to 3
Celery	2 to 3
Corn (on cob)	2 to 3
Endive	5 to 6
Egg Plant	1 to 2
Leek	2 to 3
Lettuce	3 to 4
Melon	8 to 10
Mustard	3 to 4
Okra ..	3 to 4
Onion	2 to 3
Pea	5 to 6
Pumpkin	8 to 10
Parsley	2 to 3
Parsnip	2 to 4
Pepper	2 to 3
Rhubarb	3 to 4
Squash	8 to 10
Spinach	3 to 4
Turnip	3 to 6
Tomato	2 to 3

HOW TO MIX PAINTS FOR TINTS.

Red and Black makes	Brown
Lake and White makes	Rose
White and Brown makes	Chestnut
White, Blue and Lake makes	Purple
Blue and Lead Color makes	Pearl

White and Carmine makes.....	Pink
Indigo and Lamp-Black makes.....	Silver Gray
White and Lamp-Black makes.....	Lead Color
Black and Venetian Red makes.....	Chocolate
White and Green makes.....	Bright Green
Purple and White makes.....	French White
Light Green and Black makes.....	Dark Green
White and Green makes.....	Pea Green
White and Emerald Green makes.....	Brilliant Green
Red and Yellow makes.....	Orange
White and Yellow makes.....	Straw Color
White, Blue and Black makes.....	Pearl Gray
White, Lake and Vermillion makes.....	Flesh Color
Umber, White and Venetian Red makes.....	Drab
White, Yellow and Venetian Red makes.....	Cream
Red, Blue, Black and Red makes.....	Olive
Yellow, White and a little Venetian Red makes....	Buff

DEGREES OF HEAT AND COLD REQUIRED TO FREEZE, MELT AND BOIL THE FOLLOWING SUBSTANCES.

Degrees of Heat ABOVE ZERO at which the following articles Melt.

Cast Iron.....	3,500
Glass.....	2,400
Copper.....	2,160
Gold.....	1,983
Brass.....	1,900
Silver.....	1,850
Antimony.....	950
Zinc.....	780
Lead.....	590
Bismuth.....	476
Tin.....	420
Gutta Serena.....	150
Lard.....	96
Ice.....	35

Degrees of Cold ABOVE ZERO at which the following articles Freeze.

Turpentine (Spirits)	15
Strong Wine.....	20
Milk.....	29
Water	32

Degrees of Heat ABOVE ZERO at which the following articles Boil.

Blood Heat.....	98
Alcohol.....	175
Water	210
Petroleum.....	305
Linseed Oil.....	600
Quicksilver	630

Tables of Weights and Measures.

CUBIC MEASURE.

1,728 cubic inches **1** cubic foot, **27** cubic feet **1** cubic yard,
128 cubic feet **1** cord (wood), **40** cubic feet **1** ton
 (shipping), **2,150.42** cubic inches **1** standard bushel,
268.8 cubic inches **1** standard gallon, **1** cubic foot
 four-fifths of a bushel.

SURVEYOR'S MEASURE.

7.92 inches **1** link, **25** links **1** rod, **4** rods **1** chain, **10**
 square chains or **160** square rods **1** acre, **640** acres **1**
 square mile.

LONG MEASURE—DISTANCE.

3 barleycorns **1** inch, **12** inches **1** foot, **3** feet **1** yard, **5½**
 yards **1** rod, **40** rods **1** furlong, **8** furlongs **1** mile.

DRY MEASURE.

2 pints make **1** quart, **8** quarts make **1** peck, **4** pecks
 make **1** bushel, **36** bushels make **1** chaldron.

LIQUID OR WINE MEASURE.

4 gills make **1** pint, **2** pints make **1** quart, **4** quarts make
1 gallon, **31½** gallons make **1** barrel, **2** barrels make
1 hogshead.

APOTHECARIES' WEIGHT.

20 grains make 1 scruple, 3 scruples make 1 drachm, 8 drachms make 1 ounce, 12 ounces make 1 pound.

TROY WEIGHT.

24 grains make 1 pennyweight, 20 pennyweight make 1 ounce. By this weight, gold, silver and jewels only are weighed. The ounce and pound in this are same as in Apothecaries' weight.

AVOIRDUPOIS WEIGHT.

6 drachms make 1 ounce, 16 ounces make 1 pound, 25 pounds make 1 quarter, 4 quarters make 100 weight, 2,000 pounds make 1 ton.

CIRCULAR MEASURE.

60 seconds make 1 minute, 60 minutes make 1 degree, 30 degrees make 1 sign, 90 degrees make 1 quadrant, 4 quadrants or 360 degrees make 1 circle.

TIME MEASURE.

60 seconds make 1 minute, 60 minutes make 1 hour, 24 hours make 1 day, 7 days make 1 week, 4 weeks make 1 lunar month, 28, 29, 30, or 31 days make 1 calendar month (30 days make 1 month in computing interest), 52 weeks and 1 day, or 12 calendar months make 1 year, 365 days, 5 hours, 48 minutes, and 49 seconds make 1 solar year.

SQUARE MEASURE.

144 square inches 1 square foot, 9 square feet 1 square yard, $30\frac{1}{4}$ square yards 1 square rod, 40 square rods 1 rood, 4 roods 1 acre.

CLOTH MEASURE.

$2\frac{1}{4}$ inches 1 nail, 4 nails 1 quarter, 4 quarters 1 yard.

MISCELLANEOUS.

3 inches 1 palm, 4 inches 1 hand, 6 inches 1 span, 18 inches 1 cubit, 21.8 inches 1 Bible cubit, $2\frac{1}{2}$ feet 1 military pace.

POPULATION OF EVERY STATE AND TERRITORY—U. S. Census of 1890 and 1900.

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STATES AND TERRITORIES.	1900	1890	Indians not taxed 1900	STATES AND TERRITORIES.	1900	1890	Indians not taxed 1900
The United States, 76,304,799	63,069,756	134,158		New York.....	7,268,012	5,997,853	4,711
STATES.				North Carolina....	1,893,810	1,617,947	.....
Alabama.....	1,828,697	1,513,017		North Dakota.....	319,146	182,719	4,692
Arkansas.....	1,311,564	1,128,179		Ohio.....	4,157,545	3,672,316	.....
California.....	1,485,053	1,208,130	1,549	Oregon.....	413,536	313,767	.....
Colorado.....	539,700	412,198	597	Pennsylvania.....	6,302,115	5,258,014	.....
Connecticut.....	908,355	746,258		Rhode Island.....	428,556	345,506	.....
Delaware.....	184,735	168,493		South Carolina....	1,340,316	1,151,149	.....
Florida.....	528,542	391,422		South Dakota.....	401,570	328,808	10,932
Georgia.....	2,216,331	1,837,353		Tennessee.....	2,020,616	1,767,518	.....
Idaho.....	161,772	84,385	2,297	Texas.....	3,048,710	2,235,523	.....
Illinois.....	4,821,550	3,826,351		Utah.....	276,749	207,905	1,472
Indiana.....	2,516,462	2,192,404		Vermont.....	343,641	332,422	.....
Iowa.....	2,231,853	1,911,896		Virginia.....	1,854,184	1,655,980	.....
Kansas.....	1,470,495	1,427,096		Washington.....	518,103	349,390	2,531
Kentucky.....	2,147,174	1,858,635		West Virginia.....	958,800	762,794	.....
Louisiana.....	1,381,625	1,118,587		Wisconsin.....	2,069,042	1,686,880	1,657
Maine.....	694,466	661,086		Wyoming.....	92,531	60,705	.....
Maryland.....	1,190,050	1,042,390		Total for 45 States, 74,610,523	62,116,811	44,617	
Massachusetts.....	2,805,346	2,238,943		TERRITORIES.			
Michigan.....	2,420,982	2,093,889	1,768	Alaska.....	63,441	32,052	.....
Minnesota.....	1,751,394	1,301,826		Arizona.....	122,931	59,620	24,644
Mississippi.....	1,551,270	1,289,600		Dist. of Columbia.	278,718	230,392	.....
Missouri.....	3,106,665	2,679,184		Hawaii.....	154,001	89,990	.....
Montana.....	243,329	132,159	10,746	Indian Territory..	391,960	180,182	56,033
Nebraska.....	1,068,539	1,058,910		New Mexico.....	195,310	153,593	2,937
Nevada.....	42,335	45,761	1,665	Oklahoma.....	398,245	61,834	5,927
New Hampshire....	411,588	376,530		Total, Territories..	1,604,606	807,663	89,541
New Jersey.....	1,883,669	1,444,933		Total, Territories stationed abroad.....	89,670	.....	.....
Persons in the service of the United States stationed abroad.....				Indian Territory.....	.....	145,282	.....
Indians, etc., on Indian reservations, except							

A Census of Porto Rico taken October 16, 1899, showed a population of 953,243.

POLITICAL INFORMATION.

Result of the Electoral College Proceedings by States from 1789 to and including 1896.

1789, WASHINGTON AND ADAMS—Washington had the votes of all the states, viz., New Hampshire, Massachusetts, Connecticut, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, South Carolina and Georgia; total, 69 votes.

Adams had all of New Hampshire, Massachusetts, 5 of the 7 of Connecticut, 1 of the 6 of New Jersey, 8 of the 10 of Pennsylvania, 5 of the 10 of Virginia; total, 34.

1793, WASHINGTON AND ADAMS—Washington had the votes of all the states, viz., New Hampshire, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, Kentucky, North Carolina, South Carolina and Georgia; total, 132.

Adams carried all these states with the exception of New York, Virginia, Kentucky, North Carolina and Georgia; total, 77 votes.

1797, ADAMS AND JEFFERSON—Adams had the votes of New Hampshire, Massachusetts, Rhode Island, Connecticut, Vermont, New York, New Jersey, Delaware, 1 of the 15 of Pennsylvania, 1 of the 20 of Virginia, 1 of the 12 of North Carolina, and 7 of the 11 of Maryland; total, 71.

Thomas Jefferson had 14 of the 15 votes of Pennsylvania, 4 of the 11 of Maryland, 20 of the 21 of Virginia, Kentucky, 11 of the 12 of North Carolina, Tennessee, Georgia and South Carolina; total, 68.

1801, JEFFERSON AND BURR—Had the votes of the states of New York, 8 of the 15 of Pennsylvania, 5 of the 10 of Maryland, Virginia, Kentucky, 8 of the 12 of North Carolina, Tennessee, South Carolina and Georgia; total, 73. House decided Jefferson President, and Burr Vice-President.

ADAMS AND PINCKNEY—Had the votes of the states of New Hampshire, Massachusetts, Rhode Island, Connecticut, Vermont, New Jersey, 7 of the 15 of Pennsylvania, Delaware, 5 of the 10 of Maryland, and 4 of the 12 of North Carolina; total, 65.

1805, JEFFERSON AND CLINTON—Had the votes of states of New Hampshire, Massachusetts, Rhode Island, Vermont, New York, New Jersey, Pennsylvania, Maryland, Virginia, North Carolina, South Carolina, Georgia, Tennessee, Kentucky and Ohio; total, 162.

PINCKNEY AND KING—Had the votes of states Connecticut, Delaware, and 2 of the 11 of Maryland; total, 14.

1809, MADISON AND CLINTON—Had the votes of the states of Vermont, New York, New Jersey, Pennsylvania, 9 of the 11 of Maryland, Virginia, 11 of the 14 of North Carolina, South Carolina, Georgia, Kentucky, Tennessee and Ohio; total, 122.

PINCKNEY AND KING—Had the votes of the states of New York, Massachusetts, Rhode Island, Connecticut, Delaware, 2 of the 11 of Maryland and 3 of the 14 of North Carolina; total, 47.

1813, MADISON AND GERRY—Carried Vermont, Pennsylvania, 6 of the 11 of Maryland, Virginia, North Carolina, South Carolina, Georgia, Kentucky, Tennessee, Ohio and Louisiana; total, 128.

CLINTON AND INGERSOLL—Had the votes of the states of New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware and 5 of the 11 of Maryland; total, 89.

1817, MONROE AND TOMPKINS—Had the votes of the states of New Hampshire, Rhode Island, Vermont, New York, New Jersey, Pennsylvania, Maryland, Virginia, North Carolina, South Carolina, Georgia, Kentucky, Tennessee, Ohio, Louisiana and Indiana; total, 183.

KING AND HOWARD—Had the votes of the states of Massachusetts, Connecticut and Delaware; total 34.

1821, MONROE AND TOMPKINS—Had the votes of every state in the Union; total, 231.

ADAMS AND STOCKTON—Adams had 1 vote of the 8 of New Hampshire, and Stockton 8 of the 15 of Massachusetts.

1825, ADAMS AND CALHOUN—Had the votes of the states of Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, Vermont, 26 of the 36 of New York, 1 of the 3 of Delaware, 3 of the 11 of Maryland, 2 of the 5 of Louisiana, and 1 of the 3 of Illinois; total 84 for Adams. Calhoun for Vice-President carried several states that Adams did not carry, and had a total of 182 votes.

CRAWFORD—Had 5 of the 36 votes of New York, 2 of the 3 of Delaware, and 1 of the 11 of Maryland, Virginia and Georgia; total, 41.

JACKSON—Had 1 of the 36 votes of New York, New Jersey, Pennsylvania, 7 of the 11 of Maryland, North Carolina, South Carolina, Tennessee, 3 of the 5 of Louisiana, Mississippi, Indiana, Illinois and Alabama; total, 99.

CLAY—Had 4 of the 36 votes of New York, Kentucky, Ohio and Missouri; total, 37.

No choice by the electoral college, it devolving upon House of Representatives. A choice was reached on first ballot as follows: Adams—Connecticut, Illinois, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Missouri, New Hampshire, New York, Ohio, Rhode Island and Vermont; 13 states. Jackson—Alabama, Indiana, Missouri, New Jersey, Pennsylvania, South Carolina and Tennessee; 7 states. Crawford—Delaware, Georgia, North Carolina and Virginia; 4 states.

1829, JACKSON AND CALHOUN—Had 1 of the votes of the 9 of Maine, 20 of the 36 of New York, Pennsylvania, 5 of the 11 of Maryland, Virginia, North Carolina, South Carolina, Georgia, Kentucky, Tennessee, Ohio, Indiana, Mississippi, Illinois, Alabama and Missouri; total, 178.

ADAMS AND RUSH—Had 8 of the 9 votes of Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, Vermont, 16 of the 36 of New York, New Jersey, Delaware, and 6 of the 11 of Maryland; total, 83.

1833, JACKSON AND VAN BUREN—Had the votes of Maine, New Hampshire, New York, New Jersey, Pennsylvania, 3 of the 8 of

Maryland, Virginia, North Carolina, Georgia, Tennessee, Ohio, Louisiana, Mississippi, Indiana, Illinois, Alabama and Missouri; total 219.

CLAY AND SERGEANT—Had the votes of the states of Massachusetts, Rhode Island, Connecticut, Delaware, 5 of the 8 of Maryland, and Kentucky; total, 49.

1837, VAN BUREN AND JOHNSON—Had the votes of the states of Maine, New Hampshire, Rhode Island, Connecticut, New York, Pennsylvania, Virginia, North Carolina, Louisiana, Mississippi, Illinois, Alabama, Missouri, Arkansas and Michigan; total, 170.

HARRISON AND GRANGER—Had the votes of the states of Vermont, New Jersey, Delaware, Maryland, Kentucky, Ohio and Indiana; total, 73.

1841, HARRISON AND TYLER—Had the votes of the states of Maine, Massachusetts, Rhode Island, Connecticut, Vermont, New York, New Jersey, Pennsylvania, Delaware, Maryland, North Carolina, Georgia, Kentucky, Tennessee, Ohio, Louisiana, Mississippi, Indiana and Michigan; total, 234.

VAN BUREN—Had the votes of the states of New Hampshire, Virginia, South Carolina, Illinois, Alabama, Missouri and Arkansas; total, 60.

1845, POLK AND DALLAS—Had the votes of the states of Maine, New Hampshire, New York, Pennsylvania, Virginia, South Carolina, Georgia, Louisiana, Mississippi, Indiana, Illinois, Alabama, Missouri, Arkansas and Michigan; total, 170.

CLAY AND FRELINGHUYSEN—Had the votes of the states of Rhode Island, Connecticut, Vermont, New Jersey, Delaware, Maryland, North Carolina, Kentucky, Tennessee and Ohio; total, 105.

1849, TAYLOR AND FILLMORE—Had the votes of the states of Massachusetts, Rhode Island, Connecticut, Vermont, New York, New Jersey, Pennsylvania, Delaware, Maryland, North Carolina, Georgia, Kentucky, Tennessee, Louisiana and Florida; total, 163.

CASS AND BUTLER—Had the votes of the states of Maine, New Hampshire, Virginia, South Carolina, Ohio, Mississippi, Indiana, Illinois, Alabama, Missouri, Arkansas, Michigan, Texas, Iowa and Wisconsin; total, 127.

1853, PIERCE AND KING—Had the votes of the states of Maine, New Hampshire, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Ohio, Louisiana, Mississippi, Indiana, Illinois, Alabama, Missouri, Arkansas, Michigan, Florida, Texas, Iowa, Wisconsin and California; total, 254.

SCOTT AND GRAHAM—Had the votes of the states of Massachusetts, Vermont, Kentucky and Tennessee; total, 42.

1857, BUCHANAN AND BRECKINRIDGE—Had the votes of the states of New Jersey, Pennsylvania, Delaware, Virginia, North Carolina, South Carolina, Georgia, Kentucky, Tennessee, Louisiana, Mississippi, Indiana, Illinois, Alabama, Missouri, Arkansas, Florida, Texas and California; total, 174.

FREMONT AND DAYTON—Had the votes of the states of Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, Vermont, Ohio, New York, Michigan, Iowa and Wisconsin; total, 114.

FILLMORE AND DONELSON—Had the votes of the state of Maryland; total, 8.

1861, LINCOLN AND HAMLIN—Had the votes of the states of Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, Vermont, New York, 4 of the 7 of New Jersey, Pennsylvania, Ohio, Indiana, Illinois, Michigan, Iowa, Wisconsin, California, Minnesota and Oregon; total, 180.

BRECKINRIDGE AND LANE—Had the votes of the states of Delaware, Maryland, North Carolina, South Carolina, Georgia, Louisiana, Mississippi, Alabama, Arkansas, Florida and Texas; total, 72.

DOUGLAS AND JOHNSON—Had the votes of the states of Missouri, and 3 of the 7 of New Jersey; total, 12.

BELL AND EVERETT—Had the votes of the states of Virginia, Kentucky and Tennessee; total, 39.

1865, LINCOLN AND JOHNSON—Had the votes of the states of Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, Vermont, New York, Pennsylvania, Maryland, Ohio, Indiana, Illinois, Missouri, Michigan, Wisconsin, Iowa, California, Minnesota, Oregon, Kansas, West Virginia and Nebraska; total, 212.

MCCLELLAN AND PENDLETON—Had the votes of the states of New Jersey, Delaware and Kentucky; total, 21.

Eleven states did not vote, viz.: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas and Virginia.

1869, GRANT AND COLFAX—Had the votes of the states of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, Pennsylvania, North Carolina, South Carolina, Alabama, Ohio, Tennessee, Indiana, Illinois, Missouri, Arkansas, Michigan, Florida, Iowa, Wisconsin, California, Minnesota, Kansas, West Virginia, Nevada and Nebraska; total, 214.

SEYMOUR AND BLAIR—Had the votes of the states of New York, New Jersey, Delaware, Maryland, Georgia, Louisiana, Kentucky and Oregon; total, 80.

Three states did not vote, viz.: Mississippi, Texas and Virginia.

1873, GRANT AND WILSON—Had the votes of the states of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Virginia, North Carolina, South Carolina, Alabama, Ohio, Indiana, Illinois, Mississippi, Michigan, Florida, Iowa, Wisconsin, California, Minnesota, Oregon, Kansas, West Virginia, Nebraska and Nevada; total, 286.

GREELEY AND BROWN—Had the votes of the states of Maryland, Georgia, Kentucky, Tennessee, Missouri and Texas: total, 63.

Three electoral votes of Georgia cast for Greeley, and the votes of Arkansas, 5, and Louisiana, 8, cast for Grant, were rejected.

1877, HAYES AND WHEELER—Had the votes of the states of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Pennsylvania, South Carolina, Ohio, Louisiana, Illinois, Michigan, Florida, Iowa, Wisconsin, California, Minnesota, Oregon, Kansas, Nevada, Nebraska and Colorado; total, 185.

TILDEN AND HENDRICKS—Had votes of Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina, Georgia, Alabama, Kentucky, Tennessee, Indiana, Missouri, Arkansas, Mississippi, Texas and West Virginia; total, 184.

1881, **GARFIELD AND ARTHUR**—Had votes of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, Ohio, Indiana, Illinois, Michigan, Iowa, Wisconsin, 1 of the 6 of California, Minnesota, Oregon, Kansas, Nebraska and Colorado; total, 214.

HANCOCK AND ENGLISH—Had votes of New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Alabama, Louisiana, Kentucky, Tennessee, Missouri, Arkansas, Mississippi, Florida, Texas, 5 of the 6 of California, West Virginia and Nebraska; total, 155.

1884, **CLEVELAND AND HENDRICKS**—Had votes of Alabama, Arkansas, Connecticut, Delaware, Florida, Georgia, Indiana, Kentucky, Louisiana, Maryland, Mississippi, Missouri, New Jersey, New York, North Carolina, South Carolina, Tennessee, Texas, Virginia, West Virginia; total, 203.

BLAINE AND LOGAN—Had votes of California, Colorado, Illinois, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Nebraska, Nevada, New Hampshire, Ohio, Oregon, Pennsylvania, Rhode Island, Vermont, Wisconsin; total, 166.

1888, **HARRISON AND MORTON**—Had votes of Cal., Colo., Ill., Ind., Iowa, Kans., Me., Mass., Mich., Minn., Neb., Nev., N. H., N. Y., Ohio, Ore., Pa., R. I., Vt., Wis.; total, 233.

CLEVELAND AND THURMAN—Had votes of Ala., Ark., Conn., Del., Fla., Ga., Ky., La., Md., Miss., Mo., N. J., N. C., S. C., Tenn., Tex., Va., W. Va.; total, 168.

1892, **CLEVELAND AND STEVENSON**—Had votes of Ala., Ark., Cal., Conn., Del., Fla., Ga., Ill., Ind., Ky., La., Md., Mich. (5), Miss., Mo., N. J., N. Y., N. C., N. D. (1), S. C., Tenn., Tex., Va., W. Va., Wis.; total, 276.

HARRISON AND REID—Iowa, Me., Mass., Mich. (9), Minn., Mont., Neb., N. H., N. D. (1), Ohio, Ore., Pa., R. I., S. D., Vt., Wash., Wy.; total, 145.

WEAVER AND FIELD (Populists)—Colo., N. D. (1), Idaho, Kans., Nev., Ore. (1); total, 22.

1896, **MCKINLEY AND HOBART**—Had votes of Cal. (8), Conn., Del., Ill., Ind., Iowa, Ky. (12), Me., Md., Mass., Mich., Minn., N. H., N. J., N. Y., N. D., Ohio, Ore., Pa., R. I., Vt., W. Va., Wis.; total, 271.

BRYAN AND SEWALL—Had votes of Ala., Ark., Cal. (1), Colo., Fla., Ga., Idaho, Kans., Ky. (1), La., Miss., Mo., Mont., Neb., Nev., N. C., S. C., S. D., Tenn., Tex., Utah, Va., Wash., Wyo.; total, 176. (Populist Watson took 27 votes from Sewall.)

1900, **MCKINLEY AND ROOSEVELT**—Had votes of Cal., Conn., Del., Ill., Ind., Iowa, Kans., Me., Md., Mass., Mich., Minn., Neb., N. H., N. J., N. Y., N. D., Ohio, Ore., Pa., R. I., S. D., Utah, Vt., Wash., W. Va., Wis., Wyo.; total, 292.

BRYAN AND STEVENSON—Had votes of Colo., Fla., Ga., Idaho, Ky., La., Miss., Mo., Mont., Nev., N. C., S. C., Tenn., Tex., Va.; total, 156.

U. S. MILITARY ACADEMY AT WEST POINT.

Each Senator, Congressional District, and Territory—also the District of Columbia—is entitled to have one cadet at the Academy. There are also thirty appointments at large, specially conferred by the President of the United States. The number of students is thus limited to four hundred and eighty-one. At present (1901) there are three extra cadets at the Academy, who were authorized by Congress to enter it at their own expense from Venezuela, Costa Rica, and Ecuador.

Appointments are usually made one year in advance of date of admission, by the Secretary of War, upon the nomination of the Senator or Representative. These nominations may either be made after competitive examination or given direct, at the option of the Representative. The Representative may nominate a legally qualified second candidate, to be designated the alternate. The alternate will receive from the War Department a letter of appointment, and will be examined with the regular appointee, and if duly qualified will be admitted to the Academy in the event of the failure of the principal to pass the prescribed preliminary examinations. Appointees to the Military Academy must be between seventeen and twenty-two years of age, free from any infirmity which may render them unfit for military service, and able to pass a careful examination in reading, writing, orthography, arithmetic, grammar, geography, and history of the United States.

The course of instruction, which is quite thorough, requires four years, and is largely mathematical and professional. The principal subjects taught are mathematics, French, drawing, drill regulations of all arms of the service, natural and experimental philosophy, chemistry, chemical physics, mineralogy, geology, electricity, history, international, constitutional and military law, Spanish, civil and military engineering, art and science of war, and ordnance and gunnery. About one-fourth of these appointed usually fail to pass the preliminary examinations, and but little over one-half the remainder are finally graduated. The discipline is very strict—even more so than in the army—and the enforcement of penalties for offences is inflexible rather than severe. Academic duties begin Sept. 1 and continue until June 1. Examinations are held in each January and June, and cadets found proficient in studies and correct in conduct are given the particular standing in their class to which their merits entitle them, while those cadets deficient in either conduct or studies are discharged.

From about the middle of June to the end of August cadets live in camp, engaged only in military duties and receiving practical military instruction. Cadets are al-

lowed but one leave of absence during the four years' course, and this is granted at the expiration of the first two years. The pay of a cadet is \$540 per year, and, with proper economy, sufficient for support. The number of students at the Academy is usually about four hundred and twenty-five.

Upon graduating, cadets are commissioned as second lieutenants in the United States Army. The whole number of graduates from 1802 to 1900, inclusive, has been three thousand nine hundred and ninety-three (3,993). It is virtually absolutely necessary for a person seeking an appointment to apply to his Senator or Member of Congress. The appointments by the President are usually restricted to sons of officers of the army and navy, who, by reason of their shifting residence, due to the necessities of the service, find it next to impossible to obtain an appointment otherwise.

The Academy was established by act of Congress in 1802. An annual Board of Visitors is appointed, seven being appointed by the President of the United States, two by the President of the Senate, and three by the Speaker of the House of Representatives. They visit the Academy in June, and are present at the concluding exercises of the graduating class of that year.

The two oldest living graduates of the Military Academy are Joseph Smith Bryce, of New York, 1829, and Thomas A. Morris, of Indianapolis, 1834.

U. S. NAVAL ACADEMY AT ANNAPOLIS.

There are allowed at the Academy one naval cadet for each Member or Delegate of the United States House of Representatives, one for the District of Columbia, and ten at large. The appointment of cadets at large and for the District of Columbia is made by the President. The Secretary of the Navy, as soon after March 5 in each year as possible, must notify, in writing, each Member and Delegate of the House of Representatives of any vacancy that may exist in his district. The nomination of a candidate to fill the vacancy is made, on the recommendation of the Member or Delegate, by the Secretary. Candidates must be actual residents of the districts from which they are nominated.

The course of naval cadets is six years, the last two of which are spent at sea. Candidates at the time of their examination for admission must not be under fifteen nor over twenty years of age and physically sound, well formed and of robust constitution. They are examined mentally by the academic board in reading, writing, spelling, arithmetic, geography, English grammar, United States history, algebra through quadratic equations, and

plane geometry (five books of Chauvenet's Geometry, or an equivalent). Deficiency in any one of these subjects may be sufficient to insure the rejection of the candidate. They enter the Academy immediately after passing the prescribed examinations, and are required to sign articles binding themselves to serve in the United States Navy eight years (including the time of probation at the Naval Academy), unless sooner discharged. The pay of a naval cadet is \$500 a year, beginning at the date of admission.

Appointments to fill all vacancies that may occur during a year in the lower grades of the Line of the Navy and of the Marine Corps will be made from the naval cadets, graduates of the year, at the conclusion of their six years' course, in the order of merit as determined by the Academic Board of the Naval Academy.

At least fifteen appointments from such graduates are made each year. Surplus graduates who do not receive appointments are given a certificate of graduation, an honorable discharge, and one year's sea pay.

The Academy was founded in 1845 by the Hon. George Bancroft, Secretary of the Navy in the Administration of President Polk. It was formally opened October 10 of that year, with Commander Franklin Buchanan as Superintendent. During the Civil War it was removed from Annapolis, Md. to Newport, R. I., but was returned to the former place in 1865. It is under the direct supervision of the Bureau of Navigation, Navy Department.

THE MARRIAGEABLE AGE.

The "marriageable age" varies greatly. In Austria a "man" and "woman" of 14 are supposed to be capable of conducting a home of their own. In Germany the man must be at least 18 years of age. In France and Belgium the man must be 18 and the woman 15. In Spain the intended husband must have passed his 14th year and the woman her 12th. The law in Hungary, for Roman Catholics, is that the man must be 14 years old, the woman 12; for Protestants, the man must be 18 and the woman 15. In Greece, the man must have seen at least 14 summers and the woman 12. In Portugal a boy of 14 is considered marriageable, and a woman of 12. In Russia and Saxony they are more sensible, and a youth must refrain from matrimony till he can count 18 years, and the woman till she can count 16. In Switzerland men from the age of 14 and women from the age of 12 are allowed to marry.

The Turkish law provides that any youth and maid who can walk properly and can understand the necessary service are allowed to be united for life.

WHAT IT COSTS TO CLOTHE UNCLE SAM'S SOLDIERS.

The allowance for privates includes, for the three years' term, two woolen blankets, three lined blouses, two unlined blouses, two pairs of boots for mounted troops, four forage caps, four ornaments for forage caps, three canvas fatigue coats, one uniform dress coat, thirty-six linen collars, nine pairs of drawers, two pairs of leather gauntlets, twenty-four pairs of gloves for foot troops or twelve pairs for mounted troops, four campaign hats, one helmet, one overcoat, seven dark blue flannel shirts, nine wool knit shirts, three pairs of barracks shoes, eight pairs of shoes for foot troops or five pairs for mounted troops, together with two pairs of stable shoes. The list also includes eighteen pairs of cotton stockings and twelve pairs of woolen stockings, three pairs of suspenders, three pairs of canvas fatigue trousers, seven pairs of kersey trousers, seven pairs of striped trousers.

This outfit is valued at \$125.37, and if when the final accounting is made it is found that the soldier has overdrawn his account he is charged with the difference, which is taken out of his retained pay. If, on the other hand, he has made requisition for less clothing than the regulations allow, his account is credited with the difference, which he receives in cash. For that reason it is to the soldier's interest to be economical and make his clothes last as long as possible.

THE EFFECTS OF MACHINE LABOR UPON WAGES.

The U. S. Commissioner of Labor, in his Thirteenth Annual Report deals exhaustively with hand and machine labor except as to the effect of the use of machinery operated by women and children upon wages and as to whether changes in the creative cost of products are due to a lack or surplus of labor, or to the introduction of power machinery. Machinery has lowered the cost of production: but the hand method of production is still extensive, though steadily going out of use. Some comparisons are made as follows: Ten plows, which cost \$54.46 by hand labor and which employed two men for 1,108 hours, cost, when made by machinery, \$7.50, employing 52 men for 37 hours, 28 minutes. One hundred blank books cost, when made by hand, \$219.79, and employed 3 men for 1,272 hours; they cost, when made by machinery, \$69.97, employing 20 men for 245 hours. Ruling 100 reams of paper cost, when done by hand, \$400, and employed 1 person 4,800 hours; when done by machinery it cost 85 cents, and employs 2 persons for 2 hours, 45 minutes. One hundred pairs of men's fine

boots, when made by hand cost \$556.27, and employed 1 person 2.225 hours; when made by machinery they cost \$74.39, and employed 140 men during a total of 296 hours.

VALUE OF FARM CROPS IN 1900.

The January Bulletin of the Department of Agriculture gives the value of the principal farm crops of the United States grown in 1900. The figures are as follows :

Corn.....	\$751,220,034
Wheat.....	323,515,177
Oats.....	208,669,233
Barley.....	24,075,271
Rye.....	12,295,417
Buckwheat.....	5,341,413
Potatoes.....	90,811,167
Hay.....	445,538,870

It appears that, next to the corn crop, hay is the most valuable of the northern-grown farm products.

THE OLDEST AMERICAN FORT.

Standing where the Susquehanna splits itself into the north and south branches, is old Fort Augusta, the veteran stronghold of the United States. Beside a modern fort it would look, in size, like a dog alongside of an elephant. It is now the property of Mr. and Mrs. Isaac Gross of Sunbury, Pa., and is located in a field about 165 feet from the river bank.

It was built in 1756, after plans by Col. Gordon, as a protection against the French and hostile Indians, and was named after the mother of George III. In shape it closely resembles a bake oven, and its interior is curious and interesting. A small mound of earth marks the spot, with an opening in the ground two and one-half feet wide. Twelve four-inch stone steps lead below. On descending the ground space inside is found to be 10x12 feet, and eight feet from the other to the apex of the arched ceiling. The arch is brick, and commences in an offset purposely made in the wall five feet above the ground floor. The bricks are said to be of English manufacture.

Its location at the forks of the Susquehanna had strong strategic advantages, as it held the chief passage by waterway from the north of the state. When completed, it was regarded as one of the most important of all the fortifications erected on the frontiers of the provinces. Its original armament consisted of 12 cannons and two swivels, and one of these cannons is still in existence at Sunbury. It is of English make, of about three and one-half inch bore, and weighs nearly 1,000 pounds.

LIGHTNING CONDUCTORS.

First invented by B. Franklin, in 1752. Copper is the best material. When circumstances are not such as to promote corrosion iron may be used, but of larger dimensions. Its conductivity is about one-fifth that of copper. Copper lightning conductors should be of the following dimensions: Rods $\frac{1}{2}$ in. diam., tubes $\frac{5}{8}$ in. diam., $\frac{3}{8}$ in. thick, or bands $1\frac{1}{2}$ in. wide, $\frac{3}{8}$ in. thick. Iron lightning conductors should be either solid rods 1 in. diam., or bands 2 in. wide, $\frac{3}{8}$ in. thick.

Popular Vote for Presidential Candidates from 1824 to and Including 1900.

Prior to 1824 electors were chosen by the legislatures of the different states.

1824, J. Q. ADAMS—Had 105,321 to 155,872 for Jackson, 44,282 for Crawford, and 46,587 for Clay. Jackson over Adams, 50,551. Adams less than combined vote of others, 140,869. Of the whole vote Adams had 29.92 per cent., Jackson 44.27, Clay 13.23, Crawford 13.23. Adams elected by House of Representatives.

1828, JACKSON—Had 687,231 to 509,097 for Adams. Jackson's majority, 138,134. Of the whole vote Jackson had 55.97 per cent., Adams 44.03.

1832, JACKSON—Had 687,502 to 530,189 for Clay, and 33,108 for Floyd and Wirt combined. Jackson's majority, 124,205. Of the whole vote Jackson had 54.96 per cent., Clay 42.39, and the others combined 2.65.

1836, VAN BUREN—Had 761,549 to 736,656, the combined vote for Harrison, White, Webster, and Maguin. Van Buren's majority, 24,893. Of the whole vote Van Buren had 50.83 per cent., and the others combined 49.17.

1840, HARRISON—Had 1,275,017 to 1,128,702 for Van Buren, and 7,059 for Birney. Harrison's majority, 139,256. Of the whole vote Harrison had 52.89 per cent., Van Buren 46.82, and Birney 29.

1844, POLK—Had 1,337,243 to 1,299,068 for Clay, and 62,300 for Birney. Polk over Clay, 38,173. Polk less than others combined, 24,125. Of the whole vote Polk had 49.55 per cent., Clay 48.14, and Birney 2.21.

1848, TAYLOR—Had 1,360,101 to 1,220,544 for Cass, and 291,263 for Van Buren. Taylor over Cass, 139,557. Taylor less than others combined, 151,706. Of the whole vote Taylor had 47.36 per cent., Cass 42.50, and Van Buren 10.14.

1852, PIERCE—Had 1,601,474 to 1,386,578 for Scott, and 156,140 for Hale. Pierce over all, 58,747. Of the whole vote Pierce had 50.90 per cent., Scott 44.10, and Hale 4.07.

1856, BUCHANAN—Had 1,838,169 to 1,341,264 for Fremont, and 874,534 for Fillmore. Buchanan over Fremont 496,905.

Buchanan less than combined vote of others, 377,629. Of the whole vote Buchanan had 45.34 per cent., Fremont 33.09, and Fillmore 21.57.

1860. LINCOLN—Had 1,866,352 to 1,375,157 for Douglas, 345,763 for Breckinridge, and 589,581 for Bell. Lincoln over Breckinridge, 491,195. Lincoln less than Douglas and Breckinridge combined, 354,568. Lincoln less than combined vote of all others, 944,149. Of the whole vote Lincoln had 39.91 per cent., Douglas 29.40, Breckinridge 18.08, and Bell 12.61.

1864. LINCOLN—Had 2,216,067 to 1,808,725 for McClellan. (Eleven states not voting, viz.: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas and Virginia.) Lincoln's majority, 408,342. Of the whole vote Lincoln had 55.06 per cent., and McClellan 44.94.

1868. GRANT—Had 3,015,071 to 2,709,613 for Seymour. (Three states not voting, viz.: Mississippi, Texas and Virginia.) Grant's majority, 305,458. Of the whole vote Grant had 52.67 per cent., and McClellan 47.33.

1872. GRANT—Had 3,597,070 to 2,834,079 for Greeley, 29,408 for O'Connor, and 5,608 for Black. Grant's majority, 729,975. Of the whole vote Grant had 55.63 per cent., Greeley 43.83, O'Connor 15, Black .09.

1876. HAYES—Had 4,033,950 to 4,284,885 for Tilden, 81,740 for Cooper, 9,522 for Smith, and 2,636 scattering. Tilden's majority over Hayes, 250,935. Tilden's majority of the entire vote cast, 157,037. Hayes less than the combined vote of others, 344,833. Of the whole vote cast Hayes had 47.95 per cent., Tilden 50.94 per cent., Cooper .97 per cent., Smith 11 per cent., scattering .03.

1880. GARFIELD—Had 4,449,053 to 4,442,035 for Hancock, 307,306 for Weaver, and 12,576 scattering. Garfield over Hancock, 7,018. Garfield less than the combined vote for others, 313,864. Of the popular vote Garfield had 48.26 per cent., Hancock 48.25, Weaver 3.33, scattering .13.

1884. CLEVELAND—Had 4,913,248 to 4,848,150 for Blaine, 151,062 for St. John, 133,728 for Butler. Cleveland over Blaine, 65,098. Cleveland less than entire vote of opponents, 219,712.

1888. HARRISON—Had 5,430,607 to 5,538,045 for Cleveland, 257,243 to Fisk, and 114,623 to the Labor issue. Cleveland over Harrison, 107,438. Harrison less than entire vote of opponents, 479,304.

1892. CLEVELAND—Had 5,553,142 to 5,186,931 for Harrison, 1,030,128 to Weaver (People's party) and 268,361 to Bidwell (Prohibition). Cleveland over Harrison, 366,211. Cleveland less than entire vote of opponents 932,278.

1896. MCKINLEY—Had 7,105,959 to 6,454,943 for Bryan, to 132,878 for Palmer (Gold Democrat), to 131,748 for Levering (Prohibition), to 36,260 for Matchett (Social-Labor). McKinley over Bryan, 651,016. McKinley over all competitors, 336,265.

1900. MCKINLEY—Had 7,206,677 to 6,374,397 for Bryan, 208,555 for Woolley (Prohibition), 84,003 for Debs (Social-Democrat), etc. McKinley over Bryan, 832,280. McKinley over all 443,054.

UNITED STATES CIVIL SERVICE.

The purpose of the Civil Service act, as declared in its title, is "to regulate and improve the Civil Service of the United States." It provides for the appointment of three Commissioners, a Chief Examiner, a Secretary, and other employees, and makes it the duty of the Commissioners to aid the President as he may request in preparing suitable rules for carrying the act into effect: to make regulations to govern all examinations held under the provisions of the act, to make investigations and report upon all matters touching the enforcement and effect of the rules and regulations. The address of the Commission is Washington, D. C.

EXTENT OF THE SERVICE.

It is estimated that the number of positions in the Executive Civil Service is now about 182,000, of which 80,000 are classified competitive positions and 102,000 unclassified. Less than 20,000 of the official force are employed in Washington, D. C. Most of the unclassified positions are held by fourth-class postmasters, of whom there are more than 71,000.

DIVISIONS OF THE SERVICE.

The rules require that all that part of the Executive Civil Service of the United States which has been or may hereafter be classified under the Civil Service act shall be arranged in branches as follows; The Departmental Service, the Customs Service, the Postal Service, the Government Printing Service, and the Internal Revenue Service.

The Departmental Service includes all officers and employees who on the one hand are not appointed subject to the consent of the Senate, and on the other hand are above the grade of laborer, and who are serving in or on detail from the Departments, Commissions, and offices in the District of Columbia, the Railway Mail Service, the Indian Service, the Pension Agencies, the Steamboat Inspection Service, the Marine Hospital Service, the Light-House Service, the Life-Saving Service, the Revenue Cutter Service, the Mints and Assay offices, the Sub-Treasuries, the Engineer Department at large, the Ordnance Department at large, the Land-Office Service, and the force employed under Custodians of Public Buildings, and in the U. S. Penitentiary at Leavenworth, Kan. In addition to these are included all other employees (except laborers and persons whose appointments are subject to the Senate) whose duties are clerical and medical, or who serve as watchmen, messengers, draughtsmen, engineers, firemen, computers, or as superintendents of construction, superintendents of repairs, or foremen under the Supervising Architect of the Treasury, or who are in any

branch of the Treasury Department not enumerated above. The Customs Service includes all officers and employes between the extremes before mentioned, who are serving in any customs district. The Postal Service includes all similar offices and employes at free-delivery post-offices. The Government Printing Service and the Internal Revenue Service cover all like positions in the branches indicated by their designations.

APPLICATIONS.

Persons seeking to be examined must file an application blank. The blank for the Departmental Service at Washington, Railway Mail Service, the Indian School Service and the Government Printing Service should be requested directly of the Civil Service Commission at Washington. The blank for the Customs, Postal, or Internal Revenue Service must be requested in writing of the Civil Service Board Examiners at the office where service is sought. These papers should be returned to the officers from whom they emanated.

Applicants for admission must be citizens of the United States and of proper age. No person using intoxicating liquors to excess may be appointed. No discrimination is made on account of sex, color, or political or religious opinions. The limitations of age vary with the different services, but do not apply to any person honorably discharged from the military or naval service of the United States by reason of disability resulting from wounds or sickness incurred in the line of duty.

EXAMINATIONS.

The applicants to enter the services designated are examined as to their relative capacity and fitness. For ordinary clerical places in the Departmental Customs and Internal Revenue Services the examination is confined to orthography, penmanship, copying, letter-writing and simple arithmetic. Patent examiners are examined in physics and technics, mathematics, chemistry and mechanical drawing. Meat inspectors are examined in letter-writing, veterinary anatomy and physiology, veterinary pathology and meat inspection. One of the tests for post-office and railway mail clerks is an exercise in reading manuscript addresses. Specimen sets of questions will be furnished by the Commission upon request. Examinations are held twice a year in every State and Territory at fixed times and places. All examinations relate as nearly as possible to the duties to be performed, and, wherever practicable, include experience and practical tests. No applicant is admitted to an examination in any one of the different recognized trades, such as those in the Government Printing Office, unless he has had five years' experience in his trade, one year of which must

have been as a journeyman. This information is obtained by personal questions relating to the applicant's experience at his trade and the certificates of persons who have employed him. No one is certified for appointment whose standing in any examination is less than 70 per centum of complete proficiency, except applicants whose claims for military or naval preference under Section 1,754 R. S. have been admitted. These need obtain but 65. The law also prescribes competitive examinations for promotion in the service. A certificate is given to each person examined, stating whether he passed or failed to pass.

EXCEPTED PLACES.

Among the places excepted from examination or subject only to non-competitive examination are the following: Two private secretaries or confidential clerks to the President and each of the heads of departments; one for each head of bureau appointed by the President and confirmed by the Senate, if authorized by law; all persons appointed solely by the President, attorneys, and special assistant attorneys. The excepted positions throughout the departments were increased in number by the President's order of May 29, 1899, but are too diverse and too numerous to mention here specifically.

APPOINTMENTS.

Upon the occurrence of a vacancy, the appointment to fill, if not made by promotion, reduction, transfer, reinstatement (for all of which provision is made by the Civil Service rules), must be made by selection from the eligibles of highest grade on the appropriate register. In the Executive Departments at Washington and in the Government Printing Office appointments are apportioned among the States and Territories on the basis of population. Every appointment is made for a probationary period of six months. Whenever there are no names of eligibles, upon a register for any position in which a vacancy exists, and the public interest requires that it be filled before eligibles can be provided by the Commission, such vacancy may, subject to the approval of the Commission, be filled by appointment without examination and certification until an eligible can be provided by the Commission. The number of women applying for clerical places is greatly in excess of the calls of appointing officers. The positions to which the largest numbers of them are appointed are those of assistant microscopists in the branch offices of the Bureau of Animal Industry at the various stockyards throughout the country, and teachers, matrons, seamstresses, etc., in the Indian Service. A few receive appointments as stenographers and typewriters in the Departmental Service, and a few are appointed to technical and professional places.

NATURALIZATION LAWS OF THE UNITED STATES.

The conditions under and the manner in which an alien may be admitted to become a citizen of the United States are prescribed by Sections 2165-74 of the Revised Statutes of the United States.

DECLARATION OF INTENTION.

The alien must declare upon oath, before a circuit or district court of the United States, or a district or supreme court of the Territories, or a court of record of any of the States having common law jurisdiction, and a seal and clerk, two years at least prior to his admission, that it is, *bona fide*, his intention to become a citizen of the United States, and to renounce forever all allegiance and fidelity to any foreign prince or State, and particularly to the one of which he may be at the time a citizen or subject.

OATH ON APPLICATION FOR ADMISSION.

He must, at the time of his application to be admitted, declare on oath, before some one of the courts above specified, "that he will support the Constitution of the United States, and that he absolutely and entirely renounces and abjures all allegiance and fidelity to every foreign prince, potentate, State or sovereignty, and particularly, by name, to the prince, potentate, State or sovereignty of which he was before a citizen or subject," which proceedings must be recorded by the clerk of the court.

CONDITIONS FOR CITIZENSHIP.

If it shall appear to the satisfaction of the court to which the alien has applied that he has resided continuously within the United States for at least five years, and within the State or Territory where such court is at the time held one year at least; and that during that time "he has behaved as a man of good moral character, attached to the principles of the Constitution of the United States, and well disposed to the good order and happiness of the same," he will be admitted to citizenship.

TITLES OF NOBILITY.

If the applicant has borne any hereditary title or order

of nobility, he must make an express renunciation of the same at the time of his application.

SOLDIERS.

Any alien of the age of twenty-one years and upward, who has been in the armies of the United States and has been honorably discharged therefrom, may become a citizen on his petition, without any previous declaration of intention, provided that he has resided in the United States at least one year previous to his application, and is of good moral character.

MINORS.

Any alien under the age of twenty-one years who has resided in the United States three years next preceding his arriving at that age, and who has continued to reside therein to the time he may make application to be admitted a citizen thereof, may, after he arrives at the age of twenty-one years, and after he has resided five years within the United States, including the three years of his minority, be admitted a citizen; but he must make a declaration on oath and prove to the satisfaction of the court that for two years next preceding it has been his *bona-fide* intention to become a citizen.

CHILDREN OF NATURALIZED CITIZENS.

The children of persons who have been duly naturalized, being under the age of twenty-one years at the time of the naturalization of their parents, shall, if dwelling in the United States, be considered as citizens thereof.

CITIZENS' CHILDREN WHO ARE BORN ABROAD.

The children of persons who now are or have been citizens of the United States are, though born out of the limits and jurisdiction of the United States, considered as citizens thereof.

PROTECTION ABROAD TO NATURALIZED CITIZENS.

Section 2000 of the Revised Statutes of the United States declares that "all naturalized citizens of the United States while in foreign countries are entitled to and shall receive from this Government the same protection of persons and property which is accorded to native-born citizens."

PRINCIPAL OF THE PUBLIC DEBT.

Statement of Outstanding Principal of the Public Debt of the United States on January 1 of each year from 1791 to 1842, inclusive, and on July 1 of each year from 1843 to 1886, inclusive, and on December 1 of each year from 1887 to 1891, inclusive.

JAN. 1.	JAN. 1.	JULY 1.	JULY 1.	JULY 1.
1791.. \$ 75,463,476.52	1817.. \$123,491,965.16	1843.. \$ 32,742,922.00	1869.. \$2,588,452.213.94	
1792.. 77,217,924.66	1818.. 103,466,633.83	1844.. 23,461,652.50	1870.. 2,480,672.427.81	
1793.. 80,352,634.04	1819.. 95,529,648.28	1845.. 15,925,303.01	1871.. 2,353,211.332.32	
1794 78,327,404.77	1820.. 91,015,566.15	1846.. 15,556,202.97	1872.. 2,253,251.328.78	
1795 80,747,587.39	1821.. 89,987,427.66	1847.. 38,826,534.77	1873.. 2,234,482.993.20	
1796 83,762,172.07	1822.. 93,546,676.98	1848.. 47,044,862.23	1874.. 2,251,690,468.43	
1807.. 82,064,479.33	1823.. 90,875,877.28	1849.. 63,061,858.69	1875.. 2,232,284,531.95	
1798.. 79,228,529.12	1824.. 90,269,777.77	1850.. 63,452,773.55	1876.. 2,180,395,067.15	
1799.. 78,408,669.77	1825.. 83,788,432.71	1851.. 68,304,796.02	1877.. 2,205,301,392.10	
1800.. 82,976,294.35	1826.. 81,054,059.99	1852.. 66,199,341.71	1878.. 2,256,203,892.53	
1801.. 83,038,050.80	1827.. 73,987,357.20	1853.. 59,803,117.70	1879.. 2,245,495,072.04	
1802.. 86,712,632.25	1828.. 67,475,043.87	1854.. 42,242,222.42	1880.. 2,120,415,370.63	
1803.. 77,054,686.30	1829.. 58,421,413.67	1855.. 35,586,858.56	1881.. 2,069,013,569.58	
1804.. 86,427,120.88	1830.. 48,565,406.50	1856.. 31,972,537.90	1882.. 1,918,312,994.03	
1805.. 82,312,150.50	1831.. 39,123,191.68	1857.. 28,699,831.85	1883.. 1,884,171,728.07	
1806.. 75,723,270.66	1832.. 24,322,235.18	1858.. 44,911,881.03	1884.. 1,830,528,923.57	
1807.. 69,218,398.64	1833.. 7,001,698.83	1859.. 58,496,837.88	1885.. 1,876,424,275.14	
1808.. 65,196,317.97	1834.. 4,769,082.08	1860.. 54,842,287.88	1886.. 1,756,445,205.78	
1809.. 57,023,192.09	1835.. 37,513.05	1861.. 90,580,873.72		
1810.. 53,173,217.52	1836.. 336,957.83	1862.. 524,176,412.13		
1811.. 48,005,587.76	1837.. 3,308,124.07	1863.. 1,119,772,138.63		
1812.. 45,209,737.90	1838.. 10,434,221.14	1864.. 1,815,784,370.57		
1813.. 55,962,827.57	1839.. 3,573,343.82	1865.. 2,680,647,869.74		
1814.. 81,487,846.24	1840.. 5,250,875.54	1866.. 2,773,236,173.69		
1815.. 99,833,660.15	1841.. 13,594,480.73	1867.. 2,678,126,103.87		
1816.. 127,834,933.74	1842.. 20,601,226.28	1868.. 2,611,687,851.19		
			DEC. 1.	
			1887.. 1,664,461,536.38	
			1888.. 1,680,917,706.23	
			1889.. 1,617,372,419.53	
			1890.. 1,549,296,126.48	
			1891.. 1,546,961,695.61	
			1900.. 2,132,373,031.17	

How the price of Southern Confederate Money Dropped.

When the first issue of the Confederate money was scattered among the people, it commanded a slight premium. It then scaled down as follows: June, 1861, 90c.; December 1, 1861, 80c.; December 15, 1861, 75c.; February 1, 1862, 60c.; February 1, 1863, 50c.; June, 1863, 8c.; January, 1864, 2c.; November, 1864, $4\frac{1}{2}$ c.; January, 1865, $2\frac{1}{2}$ c.; April 1, 1865, $1\frac{1}{2}$ c. After that date, it took from \$800 to \$1,000 in Confederate money to buy a one-dollar greenback.

Length of Navigation of the Mississippi River.

The length of navigation of the Mississippi river itself for ordinary large steamboats is about 2,161 miles, but small steamers can ascend about 650 miles further. The following are its principal navigable tributaries, with the miles open to navigation.

	<i>Miles.</i>		<i>Miles.</i>
Minnesota.....	295	Wisconsin.....	863
Chippewa.....	90	Rock.....	64
Iowa.....	80	Illinois.....	350
Missouri.....	2,900	Yellowstone.....	474
Big Horn.....	50	Ohio.....	950
Allegheny.....	325	Monongahela.....	110
Muskingum.....	94	Kenawha.....	94
Kentucky.....	105	Green.....	200
Wabash.....	365	Cumberland.....	600
Tennessee.....	270	Clinch.....	50
Osage.....	302	St. Francis.....	180
White.....	779	Black.....	147
Little White.....	48	Arkansas.....	884
Big Hatchie.....	75	Issaquena.....	161
Sunflower.....	271	Yazoo.....	228
Tallahatchie.....	175	Big Black.....	35
Red.....	986	Cane.....	54
Cypress.....	44	Ouachita.....	384
Black.....	61	Boeuf.....	55
Bartholomew.....	100	Tensas.....	112
Macon.....	60	Teche.....	91
Atchafalaya.....	218	D'Arbonne.....	50
Lafourche.....	168		

The other navigable tributaries have less than fifty miles each of navigation. The total miles of navigation of these fifty-five streams is about 16,500 miles, or about two-thirds the distance around the world. The Mississippi and its tributaries may be estimated to possess 15,550 miles navigable to steamboats, and 20,221 miles navigable to barges.

ARMY OF THE UNITED STATES.

Headquarters, Washington, D. C.

LIEUT. GEN. NELSON A. MILES, COMMANDING.

ORGANIZATION.

The Congress of the United States, by act of March 2, 1899, reorganized the army on the following basis: The President was authorized to maintain the regular army at a strength not exceeding 65,000 enlisted men, to be distributed among the several branches of the service, including the Signal Corps, and to raise a force of not more than 35,000 volunteers. Under this provision the strength of the army was raised to 100,000 men.

The act also provided that the *increased* regular and the volunteer forces should continue in service only during the necessity therefor and not later than July 1, 1901. In Feb. 1901, a new law was passed, re-organizing the army on practically the same basis as to numbers.

MILITARY DIVISIONS AND DEPARTMENTS, (JAN. 1, 1901.)

HEADQUARTERS OF THE ARMY.—Commander, Lieut.-Gen. Nelson A. Miles, Washington, D. C.

DIVISION OF THE PHILIPPINES.—Consisting of the Departments of Northern Luzon, Southern Luzon, Visayas, Mindanao, and Jolo comprising all the islands ceded to the United States by Spain; headquarters, Manila, P. I. Commander, Major-Gen. Arthur MacArthur.

DEPARTMENT OF NORTHERN LUZON.—Includes all that part of the Island of Luzon north of Laguna de Bay and and the province of Laguna. the same being the provinces of Abra, Bontoc, Bullacan, Cagryan, Ilocos, Infanta, Morong, Norte, Ilocos Sur, La Isabela de Luzon, Lepanto, La Union, Nueva Vizcaya, Nueva Ecija, all that portion of Manila north of the Pasig River, Principe, Pangasinan, Pampanga, Tarlac, and Zambales, and all the islands in the Philippine Archipelago north of Manila Bay and the provinces above named; headquarters, Manila, P. I. Commander, Major-Gen. Loyd Wheaton.

DEPARTMENT OF SOUTHERN LUZON.—Includes Island of Samar and all the remaining part of the Island of Luzon, the same including the following provinces: Albay, Batangas, Camarines Norte, Camarines Sur, Cavite, La Laguna, Manila south of the Pasig, and Tayabas and all islands of the Philippine Archipelago which lie south of the south line of the Department of Northern Luzon, as above described, including the Island of Polillo and north of a line passing southeastwardly through the West Pass of Apo to the twelfth parallel of north latitude; thence easterly along said parallel to 124° 10' east of Greenwich, but including the entire island of Masbate; thence north-

erly through San Bernardino Straits; headquarters, Manila, P. I. Commander, Major-Gen. John C. Bates.

DEPARTMENT OF THE VISAYAS.—Includes all islands (except Island of Samar) south of the southern line of the Department of Southern Luzon and east of longitude $121^{\circ} 45'$ east of Greenwich and north of the ninth parallel of latitude, excepting the Island of Mindanao and all islands east of the Straits of Surigao; headquarters, Iloilo, P. I. Commander, Brig.-Gen. Robert P. Hughes.

DEPARTMENT OF MINDANAO AND JOLO.—Including all the remaining islands of the Philippine Archipelago; headquarters, Zamboanga, P. I. Commander, Brig.-Gen. William A. Kobbé.

DEPARTMENT OF ALASKA.—Territory of Alaska; headquarters, Fort St. Michael, Alaska. Commander, Brig.-Gen. George M. Randall.

DEPARTMENT OF CALIFORNIA.—States of California and Nevada, the Hawaiian Islands and their dependencies; headquarters, San Francisco, Cal. Commander, Major-Gen. William R. Shafter.

DEPARTMENT OF THE COLORADO.—States of Wyoming, (except so much thereof as is embraced in the Yellowstone National Park). Colorado and Utah, and the Territories of Arizona and New Mexico; headquarters, Denver, Col. Commander, Brig.-Gen. Henry C. Merriam.

DEPARTMENT OF THE COLUMBIA.—States of Washington, Oregon, Idaho (except so much of the latter as is embraced in the Yellowstone National Park); headquarters, Vancouver Barracks, Wash. Commander, Major-Gen. William R. Shafter.

DEPARTMENT OF CUBA.—Consisting of the provinces of the Island of Cuba; headquarters, Havana, Cuba. Commander, Major-Gen. Leonard Wood.

DEPARTMENT OF DAKOTA.—States of Minnesota, North Dakota, South Dakota, Montana. and so much of Wyoming and Idaho as is embraced in the Yellowstone National Park; headquarters, St. Paul, Minn. Commander, Brig.-Gen. James F. Wade.

DEPARTMENT OF THE EAST.—New England States, New York, New Jersey, Pennsylvania, Delaware, Maryland, District of Columbia, West Virginia, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and District of Porto Rico, embracing Porto Rico and adjacent islands; headquarters, Governor's Islands, N. Y. Commander, Major-Gen. John R. Tanner.

DEPARTMENT OF THE LAKES.—States of Wisconsin, Michigan, Illinois, Indiana, Ohio, Kentucky and Tenne-

see; headquarters, Chicago, Ill. Commander, Major-Gen. Elwell S. Otis.

DEPARTMENT OF THE MISSOURI.—States of Iowa, Nebraska, Missouri, Kansas, Arkansas, the Indian Territory, and the Territory of Oklahoma; Omaha, Neb. Commander, Brig.-Gen. Fitzhugh Lee.

DEPARTMENT OF TEXAS.—State of Texas; headquarters, San Antonio, Tex. Commander, Col. Chambers McKibbin, Twelfth Infantry.

GENERALS AND LIEUTENANT-GENERALS OF THE ARMY.

1. George Washington: Elected General (and Commander-in-Chief) of the Continental Army by the Continental Congress, June 15. Resigned December 23, 1783.

Nominated to the Senate, July 2, and commissioned by President John Adams, July 4, 1798, to be Lieutenant-General (and Commander-in-Chief) "of all the armies raised or to be raised in the service of the United States," under authority conferred by an act of Congress, May 28, 1798. Washington held this office till his death, December 14, 1799.

2. Major-General Winfield Scott: Commissioned Lieutenant-General, by brevet, March 7, 1855, to rank from March 29, 1847. Held this brevet rank on the active list to November 1, 1861, and on the retired list from that date until his death, May 27, 1866.

3. Major-General Ulysses S. Grant: Commissioned Lieutenant-General March 2, 1864, under act of Congress of Feb. 27, 1864, reviving that grade, and commissioned General July 25, 1866, creating the grade of General. General Grant vacated as General when he assumed the office of President, March 4, 1869. He was appointed General, on the retired list, Mar. 3, 1885, and died July 23, 1885.

4. Maj.-Gen. Wm. T. Sherman: Appointed Lieut.-Gen. July 25, 1866, *vice* Grant, appointed General; and appointed Gen. Mar. 4, 1869, in place of Grant, when the latter assumed the office of President. General Sherman held the rank of Gen. on the active list until 1884, and on the retired list until his death, Feb. 14, 1891.

5. Maj.-Gen. Philip H. Sheridan: Appointed Lieut.-Gen. Mar. 4, 1869, *vice* Sherman, appointed General. Was appointed General, June 1, 1888, and died Aug. 5, 1888.

6. Maj.-Gen. John M. Schofield: Appointed Lieut.-Gen. Feb. 5, 1895. Was retired Sept. 29, 1896, and now holds the rank of Lieut.-Gen. on the retired list.

7. Maj.-Gen. Nelson A. Miles, the senior Maj.-Gen., assigned to command of the army on retirement of Gen. Schofield. The rank of Lieut.-Gen., conferred upon Gen.

Miles by act of Congress of June 6, 1900, which provides: "That the senior major-general of the line commanding the army shall have the rank, pay, and allowances of a lieutenant-general."

Armories, Arsenals, Depots and Soldiers' Homes.

ARMORIES, ARSENALS AND ORDNANCE DEPOTS.

Allegheny Arsenal, Pa.	New York Arsenal, N. Y.
Augusta Arsenal, Ga.	Omaha Ordnance Depot.
Benicia Arsenal, Cal.	Rock Island Arsenal, Ill.
Columbia Arsenal, Tenn.	St. Louis Powder Depot, Mo.
Fort Monroe Arsenal, Va.	San Antonio Arsenal, Tex.
Fort Snelling Ordnance Depot, Minn.	U. S. Powder Depot, N. J.
Frankfort Arsenal, Pa.	Vancouver Barracks Ordnance Depot, Wash.
Indianapolis Arsenal, Ind.	Watertown Arsenal, Mass.
Kennebec Arsenal, Me.	Watervliet Arsenal, N. Y.
National Armory, Mass.	

UNITED STATES ARMY RECRUITING REQUIREMENTS.

Applicants for first enlistment must be between the ages of eighteen and thirty-five years, of good character and habits, able-bodied, free from disease, and must be able to speak, read, and write the English language.

No person under eighteen years of age will be enlisted or re-enlisted, and minors between the ages of eighteen and twenty-one years must not be enlisted without the written consent of father, only surviving parent, or legally appointed guardian.

Original enlistments will be confined to persons who are citizens of the United States, or who have made legal declaration of their intention to become citizens thereof.

Married men will be enlisted only upon the approval of a regimental commander.

Applicants will be required to satisfy the recruiting officer regarding age and character, and should be prepared to furnish the necessary evidence.

For infantry and heavy artillery the height must be not less than five feet four inches, and weight not less than one hundred and twenty pounds (120) pounds and not more than one hundred and ninety (190) pounds.

For cavalry and light artillery the height must be not less than five feet four inches and not more than five feet ten inches, and weight not to exceed one hundred and sixty-five (165) pounds. No minimum weight is prescribed for these arms, but the chest measures must be satisfactory.

RECRUITING DEPOTS.

Columbus Barracks, Ohio; David's Island, N. Y.; Jefferson Barracks, Mo., and 44 recruiting Rendezvous all over the country.

NATIONAL HOME FOR DISABLED VOLUNTEER SOLDIERS.

The National Home for Disabled Volunteer Soldiers comprises seven branches.

EASTERN BRANCH.—National Home, Togus, Me.

SOUTHERN BRANCH.—National Soldiers' Home, Elizabeth City County, Va.

CENTRAL BRANCH.—National Military Home, Montgomery County, Ohio.

NORTHWESTERN BRANCH.—National Home, Milwaukee County, Wis.

MARION BRANCH.—National Military Home, Grant County, Ind.

WESTERN BRANCH.—National Military Home, Leavenworth County, Kan.

PACIFIC BRANCH.—Soldiers' Home, Los Angeles County, Cal.
Agency in Washington, D. C.

STATE HOMES.

Vermont Soldiers' Home, Bennington, Vt.

National Soldiers' Home, Quincy, Mass.

Soldiers' Home in Massachusetts, Chelsea, Mass.

Fitch's Home for the Soldiers, and Soldiers' Hospital of Connecticut, Noroton Heights, Conn.

New York State Soldiers' and Sailors' Home, Bath, N. Y.

New Jersey Home for Disabled Soldiers, Kearny, N. J.

Pennsylvania Home for Disabled Volunteer Soldiers and Sailors, Erie, Pa.

Michigan Soldiers' Home, Grand Rapids, Mich.

Ohio Soldiers' and Sailors' Home, Sandusky, Ohio.

Illinois Soldiers' and Sailors' Home, Quincy, Ill.

Wisconsin Veterans' Home, Waupaca, Wis.

Minnesota State Soldiers' Home, Minnehaha, Minn.

Iowa Soldiers' Home, Marshalltown, Iowa.

Nebraska Soldiers' and Sailors' Home, Grand Island, Neb.

Kansas State Soldiers' Home, Dodge City, Kans.

California Veterans' Home, Yountville, Cal.

South Dakota Soldiers' Home, Hot Springs, S. Dak.

Colorado Soldiers' and Sailors' Home, Monte Vista, Colo.

New Hampshire Soldiers' Home, Tilton, N. H.

The word "news" was not, as many suppose, derived from the adjective new, but from the fact that many years ago it was customary to put at the head of the periodical publications of the day the initial letters of the compass, thus:

N
W—|—E
S

Signifying that the matter contained therein was from the four quarters of the globe, From these letters came the word "news."

Workshop Rules and Receipts.

MOISTURE-PROOF GLUE.—One pound glue, melted in two parts skim-milk.

TO REMOVE RUST FROM STEEL.—Brush the rusted steel with a paste composed of $\frac{1}{2}$ oz. cyanide potassium, $\frac{1}{2}$ oz. castile soap, 1 oz. whiting, and enough water to make a paste. Then wash the steel in a solution of $\frac{1}{2}$ oz. cyanide potassium in 2 oz. water.

TO TEST QUALITY OF IRON.—A *soft, tough iron* is indicated by the fracture giving long, silky fibers of a grayish hue, the fibers cohering and twisting together before breaking. *Badly refined iron* is indicated by short, blackish fiber. *Good iron* is indicated by a medium, even grain, mixed with fibers. *Brittle Iron* is indicated by coarse grain, with brilliant crystallized fracture, brown or yellow spots. It works easily when heated, and welds easily.

HOT SHOT IRON is indicated by cracks on the edge of bars. Good iron heats readily, throws few sparks, and is soft when hammered.

MARINE GLUE.—One part India rubber, twelve parts mineral naphtha. Mix, heat gently, and add twenty parts of shellac, powdered fine. Cool on a slab. Heat to 250 degrees when wanted for use.

PARTING SAND.—Burnt sand, scraped from the surface of castings.

LOAM.—Mixture of brick, clay and old foundry sand.

BLACKENING FOR MOLDS.—Charcoal powder, or, in some instances, fine coal dust.

BLACK WASH.—Charcoal, plumbago and size.

MIXTURE FOR WELDING STEEL.—1 sal ammoniac, 10 borax, pounded together, and fused until clear, when it is poured out, and, after cooling, reduced to powder.

Notes on Working of Steel.

1. Good, soft heat is safe to use if steel be immediately and thoroughly worked.

It is a fact that good steel will endure more pounding than any iron.

2. If steel be left long in the fire, it will lose its steely nature and grain, and partake of the nature of cast iron.

Steel should never be kept hot any longer than is necessary to the work to be done.

3. Steel is entirely mercurial under the action of heat, and a careful study of the tables will show that there must, of necessity, be an injurious internal strain created whenever two or more parts of the same piece are subjected to different temperatures.

4. It follows, that when steel has been subjected to heat not absolutely uniform over the whole mass, careful annealing should be resorted to.

5. As the change of volume due to a degree of heat increases directly and rapidly with the quantity of carbon present, therefore high steel is more liable to dangerous internal strains than low steel, and great care should be exercised in the use of high steel.

6. Hot steel should always be put in a perfectly dry place, of even temperature, while cooling. A wet place in the floor might be sufficient to cause serious injury.

7. Never let any one fool you with the statement that his steel possesses a peculiar property which enables it to be "restored" after being "burned;" no more should you waste any money on nostrums for restoring burnt steel.

We have shown how to restore "overheated" steel.

For "burned" steel, which is oxidized steel, there is only one way of restoration, and that is, through the knobbling fire or the blast furnace.

"Overheating" and "restoring" should only be allowable for purposes of experiment. The process is one of disintegration, and is always injurious.

8. Be careful not to overdo the annealing process; if carried too far it does great harm, and it is one of the commonest modes of destruction which the steel-maker meets in his daily troubles.

It is hard to induce the average worker in steel to believe that very little annealing is necessary, and that very little is really more efficacious than a great deal.

The mean strength of American wrought iron is 45,900 lbs.; English 43,900. Ultimate extension of wrought iron is 600th part of its length. The working strain is from 1-6 to $\frac{1}{4}$ the mean strength.

Resistance to flexure, acting evenly over the surface, equals one-half the tensile strength. Bars of wrought iron will expand or contract 151200th of their length for each degree of heat. With range of temperature of this country ($=20$ to $+120^{\circ}$) $=140^{\circ}$, will expand or contract 1080th part of its length, equal to a force of 20,740 lbs., or $9\frac{1}{4}$ tons per square inch of section. Tensile strength increases, in from 1 to 6 reheatings and rollings, from 43,904 lbs. to 60,824 lbs.; in from 6 to 12, is reduced again to 43,904.

Capacity of Cisterns.

For each ten inches in depth.

Twenty-five feet in diameter holds.....	3,059 gallons
Twenty feet in diameter holds.....	1,958 gallons
Fifteen feet in diameter holds.....	1,101 gallons
Fourteen feet in diameter holds.....	959 gallons
Thirteen feet in diameter holds.....	827 gallons
Twelve feet in diameter holds.....	705 gallons
Eleven feet in diameter holds.....	592 gallons
Ten feet in diameter holds....	489 gallons
Nine feet in diameter holds.....	396 gallons
Eight feet in diameter holds.....	313 gallons
Seven feet in diameter holds.....	239 gallons
Six and one-half feet in diameter holds.....	206 gallons
Six feet in diameter holds.....	176 gallons
Five feet in diameter holds.....	122 gallons
Four and one half feet in diameter holds.....	99 gallons
Four feet in diameter holds.....	78 gallons
Three feet in diameter holds.....	44 gallons
Two and one-half feet in diameter holds.....	30 gallons
Two feet in diameter holds.....	19 gallons

AFRICAN EXPLORATIONS.

The return of Henry M. Stanley from the rescue of Emin Pasha, during the summer of 1890, has excited a good deal of interest in the country, especially so since last year about 6,000,000 square miles of African territory has been taken and divided among the nations of Europe. The object of Mr. Stanley's last trip through Africa was for the relief of Emin Pasha, who had been appointed governor of Equatoria by Gen. Gordon previous to his own fall in Khartoum. This was in 1878. Emin at once entered upon his duties, which involved him in constant warfare with the Arab slave traders and the Mahdi. Up to 1886 he was entirely cut off from the outside world and nothing could be heard of him. It was known that he had ten fortified stations on the Nile and 1,500 soldiers. Dr. Junker, the Russian explorer, left Emin Jan. 1, 1886, and after many dangers reached Europe. His account of the perilous position of Emin created a profound impression in Europe and plans were formed to rescue him. Money was raised and the relief expedition was placed under the command of Mr. Stanley. He left London for Zanzibar Feb. 3, 1887, which he reached on the 21st and started at once for the mouth of the Congo, arriving there March 18, 1887. The next day he started up the Congo river and on the 28th of June reached the Aruwimi river, which is about one hundred miles north of the equator and about two-fifths of the way across, near longitude 25 east from Greenwich. From this point Stanley started across an unknown wilderness with 389 officers and men. Of the indescribable horrors encountered in fights with the natives, sickness and death of his men, hunger and sufferings of every conceivable kind, there is not space to speak. It was not until the last of February, 1889, that Stanley met Emin. To his dismay he found Emin not willing to leave the country, although he was a prisoner. At last, being influenced by the offer of a commission from the king of Belgium, he decided to unite his forces with those of Stanley and go to Bagamoyo on the Indian ocean, where they arrived Dec. 4, 1889. The distance to the mouth of the Congo was about six thousand miles and the time occupied in the journey was nearly three years.

QUEEN VICTORIA.

Her Majesty VICTORIA, by the Grace of God, of the United Kingdom of Great Britain and Ireland Queen, Defender of the Faith, Empress of India (in India, Kaisar-i-Hind), *born* 24th May, 1810, daughter of the Duke of Kent, fourth son of King George III. (died Jan. 23, 1820); *succeeded* to the throne 20th June, 1837, on the death of her uncle, King William IV.; *crowned* 28th June, 1838; and *married*, 10th February, 1840, to his late Royal Highness Francis ALBERT Augustus Charles Emmanuel, PRINCE CONSORT, Duke of Saxony, Prince of Coburg and Gotha (*born* 26th August, 1819, *died* 14th December, 1861). Her Majesty died at Osborne, Isle of Wight, Jan. 22, 1901. She had issue: 1. *Victoria*, Empress Frederick of Germany, *born* 1840 (6 children living). 2. *Albert Edward*, Prince of Wales, now King-Emperor Edward VII., *born* Nov. 9, 1841, married to Alexandra, Princess of Denmark (now Queen Alexandra), *born* Dec. 1, 1844 (5 children living). 3. *Alice*, Grand Duchess of Hess, *born* 1846, *died* 1862 (5 children living). 4. *Alfred*, Duke of Edinburgh, later of Saxe-Coburg-Gotha, *born* 1844, *died* 1900 (5 children). 5. *Helena*, Princess Christian of Schleswig-Holstein, *born* 1846 (5 children). 6. *Louise*, Duchess of Argyle, Marchioness of Lorne, *born* 1848. 7. *Arthur*, Duke of Connaught, *born* 1850 (3 children). 8. *Leopold*, Duke of Albany, *born* 1853, *died* 1884 (2 children). 9. *Beatrice*, Princess of Battenberg, *born* 1857 (4 children).

During her reign of 64 years. Queen Victoria excited a wholesome influence on English politics, never opposing the strong wave of reform that transformed her kingdom from 1838 to 1901, granting political rights to Catholics and Jews, extending the franchise to millions of non-electors, and allowing the Anglican Church to lose its supremacy in Ireland. Under her reign the United Kingdom extended its power in all directions, especially Asia, Australia and Africa. She preserved peace with the great powers, except during the Crimean war (1854-56), when her troops, allied to France's, triumphed over Russia. The Queen's sympathies were openly in favor of the South, during the American war of rebellion, and prevented the recognition by England of the Southern Confederacy. During her reign Europe was greatly transformed. France became a settled republic, Germany a united empire, Italy a united kingdom. The Dominions of Canada and Australasia were organized, the latter but a short time before the venerable old sovereign's death.

RELIGIOUS STATISTICS.

NUMBERS IN THE WORLD ACCORDING TO CREEDS.

CREEDS.	No. of Followers.
Christianity.....	477,080,158
Buddhism.....	147,900,000
Mohammedanism.....	176,834,372
Brahmanism.....	190,000,000
Confucianism.....	256,000,000
Shintoism.....	14,000,000
Judaism.....	7,186,000
Fetishism and all others.....	117,681,696

ENGLISH-SPEAKING RELIGIOUS COMMUNITIES
OF THE WORLD.

Episcopalians.....	29,200,000
Methodists of all descriptions.....	18,650,000
Roman Catholics.....	15,500,000
Presbyterians of all descriptions.....	12,250,000
Baptists of all descriptions.....	9,230,000
Congregationalists.....	6,150,000
Free Thinkers.....	5,250,000
Lutherans, etc.....	2,800,000
Unitarians.....	2,600,000
Minor Religious Sects.....	5,500,000
Of no particular Religion.....	17,000,000

English-speaking Population..... 124,130,000

PERPETUAL MOTION.

Perpetual motion is a movement which is not only self-active but also self-creative. A machine which when set in motion would continue to move without the aid of external force and without the loss of momentum, until its parts were all worn out, might be said to have solved the perpetual motion problem. But even more is expected of this invention should it ever become practicable, that it shall go on doing work without drawing on any external source of energy, or shall by its movement continually create power. The impossibility of constructing such a machine has long been demonstrated, but still ignorant and ambitious inventors continue to try for it. As early as the year 1775, the Parisian Academy of Sciences refused to receive any further schemes for perpetual motion, regarding it as an impossibility. There was a time when the perpetual motion problem was worthy the attention of a philosopher, just as there was a time when a man might have been justified in doubting whether the earth was a globe.

EUROPE.

Europe is a peninsula, projecting from Asia. It is situated in the same latitude as the United States and the Dominion of Canada.

The extreme length of Europe from northeast to southwest is about 3,500 miles. The population is about six times that of the United States.

Its water boundary, if a continuous line, would reach four-fifths of the way around the world.

The British Isles are separated from the continent by the North Sea, which has an average depth of about 600 feet. There is much evidence to show that they were formerly a part of the mainland.

In relative extent of coast Europe surpasses all other countries. It is partly to the great number of indentations of the coast that Europe owes its commercial supremacy.

The islands of Europe constitute about one-twentieth of its area.

The greater part of the continent is low and level. Russia and all the territory bordering on the North and Baltic seas constitute a vast plain, called Low Europe. The basin of the Caspian Sea and much of the Netherlands are below the sea-level.

A high plateau, extending along the southern part of the continent, is known as High Europe. This plateau is surrounded by the irregular and broken mountain ranges which constitute the Alpine System, the main axis of the continent.

The Alps are the highest range. The other principal ranges are the Pyrenees, Apennines, Balkan, Carpathian and Caucasus mountains.

The Alps have long been celebrated for the number and extent of their glaciers, among which are the sources of the Rhine, Rhone, Po and several tributaries of the Danube.

The chief lake region of Europe is in Northwestern Russia. Lake Ladoga is the largest lake.

The lakes in Switzerland, especially Geneva and Constance, are celebrated for their beautiful scenery. There are many salt lakes in Russia, most of which are situated in the basin of the Caspian Sea.

Most of the rivers of Western Europe are connected with one another by canals, and are navigable.

CLIMATE.—Europe enjoys a more equable climate than any other country situated in corresponding latitudes. Its mildness is due, chiefly, to the southwesterly winds, which are warmed by the water of the Gulf Stream.

Rain is most abundant on the western coasts.

The tundras, or frozen marshes of the Arctic Slope, are covered with mosses and willows. South of this region is a belt of dense forest, chiefly of pine, oak, elm and ash.

Grains, hemp, flax and tobacco are cultivated in the central regions. The cultivation of the grape, olive, orange, lemon, fig, mulberry and cotton is confined, chiefly, to the Mediterranean Coast.

Most of the wild animals have disappeared. The reindeer, white bear and other animals valuable for their furs are, however, found in the more thinly settled regions; the wolf and wild boar are common in the forests, and the chamois and ibex inhabit the Alpine heights.

Water-fowl are numerous. The sardine, herring, pilchard, anchovy and other fish suitable for food abound in the surrounding waters.

MINERALS.—Coal, iron and copper are very widely distributed. Silver, zinc and lead are plentiful in the central highlands. Quicksilver, niter, sulphur and salt in volcanic regions. Coral of great beauty and value is obtained in the Mediterranean Sea.

PEOPLE.—The inhabitants of Europe, numbering about 330,000,000, belong to the Caucasian and Mongolian races.

ASIA.

Asia, the largest country in the world, occupies the eastern part of the Eastern Continent.

It contains about one-third of the land surface of the earth—is twice as large as North America, and nearly five times the size of the United States. Its greatest length is 7,500 miles, nearly one-third the circumference of the earth.

The islands of Asia are a partly submerged mountain chain. All of them volcanic.

The northwestern Asia is a continuous plain; the southeastern, an elevated plateau traversed by high mountains. The line of greatest length is also the line which separates the highlands from the lowlands. From the Hindoo Koosh, the mountain ranges of Asia radiate toward the east.

The Himalaya Mountains are the highest in the world. The summit of Mt. Everest is over 29,000 feet above the sea-level, being more than 6,000 feet higher than the highest peak of the American continent.

The Caspian Sea and the Sea of Aral are thought to have been formerly arms of the ocean. Both are salt lakes. The former is below the sea-level.

Lake Baikal is the largest body of fresh water in Asia and is about as large as Lake Erie.

The rivers of Asia, though of great length, are distinguished by narrow valleys, rather than large basins. Most of them rise in the central highlands, from which they radiate in three directions,—north, east, and south, and mingle their waters with those of three oceans.

The Yang-tse and Hoang rivers are subject to great changes, brought about by the shifting of their channels. In 1851, the Hoang Ho burst through its banks and poured its waters into the Gulf of Pecheelee, and within two years its lower course had so changed that the mouth of the river had shifted 250 miles from its former position.

Central Hindoostan is often called the Plateau of the Deccan.

The Obi is the only river navigable to any considerable distance.

The river valleys and the plains which are well watered are extremely fertile. The high, central region and the western plateaus are dry, sandy, and barren.

Every degree of temperature and moisture may be found in Asia, from that of the frozen tundras of Siberia, to that of the hot, pestilential jungles of India. The deserts of Arabia, Persia, Turkestan and Gobi receive little or no rain, while the southern slope of the Himalaya is annually inundated.

Siberia is swept by icy winds from the Arctic Ocean; Arabia, by the hot and fatal simoom. India is traversed by winds which scorch the entire surface for half the year, and flood it with rain the remaining part.

Destructive cyclones often visit the coast, frequently piling up the waters of the Bay of Bengal until the lowlands of the Ganges are submerged.

Southern Asia is covered with a dense tropical vegetation. The palm, bamboo, and banyan tree are abundant. Rice, cotton, sugar-cane, flax, jute, hemp, poppy, and the spices, are the principal plants cultivated in the plains and valleys of Southern Asia.

Central Asia produces the plants which thrive best in the temperate zones. Vast forests of pine, larch, teak, maple and birch are on the upland terraces of Siberia. The chief cultivated plants of Central, Eastern and Southeastern Asia are wheat, tea and rice.

Western Asia produces the famous Mocha coffee, tobacco, the fig, date and olive.

Nearly all the domestic animals of the earth are found in Asia, and most of them are native to it. The camel and elephant are used as beasts of burden.

Southern Asia abounds in fierce animals and dangerous reptiles. The largest animals are the elephant, rhinoceros, tapir, lion, tiger, hyena, and jackal. The reptiles include the crocodile, python and cobra de capello. Monkeys and beautiful birds are numerous.

In the colder regions the bear, wolf, fox, buffalo and several species of wild cattle are common. Also many kinds of deer.

Gold and platinum are widely diffused throughout the Ural Mountains and the central plateaus.

Silver is mined in Siberia. Copper and iron are abundant and widely distributed.

Tin is abundant in the Malay Peninsula and the Island of Banca, near Sumatra.

Petroleum is found in the basin of the Caspian Sea.

Asia has always been famous for precious stones. Most of the large and valuable diamonds, sapphires, rubies, and emeralds are from the mines of India.

The finest pearls are obtained in the Persian Gulf and in the water along the coasts of Ceylon.

Asia is probably the birthplace of the human race. The strongest evidences of history and science point to the highlands of Asia as the birthplace of man. Somewhere in the valleys of Persia, the old name of which was Arya, there lived a people who built houses, cultivated the soil and had forms of government.

They believed in an Omipotent Being and also a spirit of evil. Fully one-half the inhabitants of the earth live in China and India.

Siberia, Russian Turkestan and Transcaucasia are subject to Russia, whose capital is St. Petersburg.

Siberia may be divided into three belts; agricultural and grazing land in the South; forests in the middle; and frozen marshes in the North.

Gold, silver, copper and other metals are mined in the mountains; and numerous wild animals are hunted for their furs.

Trade is carried on by means of caravans and camel trains. In summer boats navigate the rivers, and in winter sledges are drawn on the ice and snow by dogs, horses and reindeer.

The chief cities are Tiflis in Transcaucasia, west of the Caspian Sea; Tashkend, in Russian Turkestan; Omsk, in Western Siberia; and Irkootsk, in Eastern Siberia. Yakootsk, on the Lena River is said to be the coldest city in the world.

The Chinese Empire is larger by one-half than the United States and contains about six times as many inhabitants.

China contains the greater part of the population. The land is fertile and well cultivated, agriculture being the chief occupation of the people. Rivers and canals are numerous; much traveling is done in boats. Thousands of the inhabitants of China have their houses and gardens on rafts and boats which float on the rivers. These people live by gardening and fishing. In their floating houses their children are born, are married and die. A young child falling overboard there is kept from drowning by means of an empty gourd which its mother had tied between its shoulders.

The food of the Chinese consists, principally, of rice and fish.

The leading exports from China are tea, silk, porcelain and pottery.

Its trade is carried on, mainly, with Great Britain, Australia and the United States, by means of ships, and with Russia by means of caravans.

Many of the inhabitants of the other divisions of the empire are wandering tribes, whose occupation is the raising of horses, sheep and goats.

Pekin, the capital of the Chinese Empire, is noted for its surrounding walls, magnificent gates and heathen temples. Its houses are only one or two stories high. Its population is greater than that of New York City.

Thibet is situated on a high plateau, surrounded by the highest mountains in the world.

Corea is a kingdom. It was, until recently, under the control of the Chinese government.

The Empire of Japan consists of islands, which contain mountains, streams, forests, and a well cultivated soil. Japan contains beautiful lakes, rivers, water-falls, trees, and flowers of great variety; bears, deer, wolves, and foxes; pheasants and other birds. The celebrated mountain in Japan is Fujiyama, whose summit is covered with snow nearly all the year. In summer

bands of pilgrims dressed in white travel to its summit to worship idols there.

The principal occupations of the Japanese are agriculture, manufacturing and mining.

Its exports comprise tea, rice, silks, porcelain, fans and lacquered ware.

Tokio, the capital, is the residence of the emperor, called the mikado. Its chief port is Yokohama.

India is larger than all the Pacific States and Territories, and contains about four times as many inhabitants as the United States.

The Empire of India is ruled by the Governor-General, who is appointed by Victoria, Queen of Great Britain and Ireland and Empress of India. Next to the Chinese Empire it is the most populous in the world. India was settled by the Aryans, about 1400 B. C. They were Brahmins, but unlike the Brahmins of the present time in their religious teaching and practices. Their language was the Sanskrit. The people are divided into castes. They believe in the transmigration of souls. Gautama or Buddha, about 500 B. C., introduced a form of religion which, after a long struggle with Brahmanism, was overcome in India and transplanted in China, where it has degenerated into a debasing form of idolatry. Queen Elizabeth chartered the East India Company in 1600 A. D. The vast empire, which had grown by its conquests, was transferred to the British Crown in 1858.

Nearly the whole of India is subject to Great Britain, either absolutely or as tributary states.

India is remarkable for its high, snow-covered peaks, hot climate and large population.

Its low plains in the north are the most fertile in the world. The west and south contain desert tracts.

Agriculture and stock-raising are the principal industries.

The exports are cotton, opium, rice, wheat and jute. Cattle, camels, buffalos, sheep and goats are numerous. The inhabitants subsist, principally, upon rice, fish and tea.

Calcutta is the capital and the largest city in India, and the most important city in Asia. Bombay, on the western coast, and Madras, on the eastern, are important cities.

Ceylon is a mountainous island, belonging to Great Britain. It is famous for coffee and spices. Pearl oysters abound on the southern coast, and the fishery is often very profitable.

Farther India or Indo-China, forming the southeastern peninsula of Asia, comprises the kingdoms of Burmah, Siam and Anam, Lower Cochin China, Cambodia and the Malay Peninsula.

This division of Asia is remarkable for its long mountain ranges and fertile valleys, its hot, moist climate, and its dense forests and jungles.

It contains large, savage animals, and many tribes of people scarcely removed from barbarism.

The chief occupation of the inhabitants is the cultivation of rice, which is their principal article of food.

Bangkok, the capital of Siam, is the largest city in Farther India. It contains royal palaces and many pagodas. These are surrounded by bamboo houses built on piles.

Mandalay is the capital of Burmah.

Saigon is a sea-port of French Cochin China.

Singapore, on the Island of Singapore, is a sea-port belonging to Great Britain.

Persia, Afghanistan, Beloochistan and Bokhara are remarkable for their desert tracts, forest-covered mountains and fertile river valleys.

The principal products are grain, fruits, sugar, indigo and dates.

Many of the inhabitants own large flocks of goats and sheep, while others are engaged in the manufacture of silk goods, shawls, rugs and perfumery, or in the caravan trade. There are, also, many roving, warlike tribes. Nearly all are Mohammedans.

Persia is remarkable for extensive salt deserts. Near the Caspian Sea, however, vegetation is luxuriant. Here, as in other Mohammedan countries, education is confined to learning portions of the Koran and scraps of poetry. The Persians are a slow, easy-going people, hospitable, generous, but procrastinating.

These countries are important because of their situation between Russia and the Indian Ocean. Afghanistan has been called the "gateway to India."

Teheran, the capital of Persia, and Tabriz, are the chief cities.

Cabul, Herat and Candahar are the principal cities in Afghanistan.

Arabia is chiefly a hot, desert plateau, with oases of different sizes, in which dates, grapes, tamarinds and other fruits grow.

It has no general government, the inhabitants being ruled by sheiks or chiefs. The rulers are called Sultans.

Arabia is celebrated for fine dromedaries and horses, and excellent coffee.

Muscat, the capital of Oman, is the largest city in Arabia, and the chief sea-port.

Aden is a fortified sea-port belonging to Great Britain.

Mecca, the birthplace of Mohammed, is visited by many Mohammedan pilgrims every year. It is said to be the hottest city in the world.

Turkey in Asia is a part of the Ottoman, or Turkish Empire, whose capital is Constantinople.

Its northern part is remarkable for forests, mountains and fertile valleys. Its eastern part for the fertile plains of the Tigris and Euphrates, and its southern for a desert region.

Tropical fruits, cotton, grain and tobacco grow abundantly.

The people are chiefly Turks and Arabs, professing the Mohammedan religion.

Smyrna, an important commercial port and steamer station, is the largest city.

Damascus is the oldest city in the world. It contains grand old

mosques, and is the center of the caravan trade. Its manufactures comprise saddles and silk goods.

Palestine, or the Holy Land, is mentioned in Scripture as the Promised Land of the Ancient Hebrews, and the birthplace of Christianity. It contains the cities of Jerusalem and Bethlehem, the Valley of the Jordan, the Dead Sea and the Sea of Galilee.

AFRICA.

Africa, the south-western continent of the Old World, is the only country stretching entirely across the Torrid Zone.

It is a peninsula, joined to Asia by the Isthmus of Suez. The ship-canal, constructed across the isthmus, makes it, artificially, an island. The shortest distance across the Isthmus of Suez is about seventy-two miles; the line of the canal is one hundred miles. The average height of the isthmus above sea-level is scarcely ten feet.

The Suez Canal was completed in 1869. It has a depth of twenty-four feet, and a clear channel seventy-two feet in width. By connecting the Red sea with the Mediterranean, this canal furnishes a shorter route between European ports and India, than that around the Cape of Good Hope. It extends from Port Said, on the Mediterranean, to Suez, a sea-port town near the head of the Gulf of Suez.

Africa is the second country in size. Its length and breadth are each about 5,000 miles.

The coast is unbroken by bays and inlets such as make secure harbors for vessels. In proportion to its size, it has the shortest coast-line.

There are many continental islands lying along the coast of Africa. Madagascar, the largest, is separated from the continent by a very shallow channel.

The interior of Africa is a plateau, which is highest in the south and south east. This, in most parts, is bordered by mountains, between which and the sea is a low and narrow strip of coast.

The average elevation of the high plateau is about 5,000 feet; and of the northern region, about 1,500 feet.

The principal mountain system extends along the eastern side of the continent. Mount Kenia, the highest peak, is about 20,000 feet above the level of the sea.

The Great Sahara Desert has an undulating surface, and is covered mostly with shifting sand and gravel. A small portion, south of Barca, is below the sea-level.

Oases, watered by springs and covered with groves of date-palm-trees, are met with in different parts of the desert.

Soudan, situated south of the Great Desert, is a region remarkable for its extreme heat and excessive rains and droughts.

Central Africa, or the region crossed by the Equator, is remarkable for its fertility; and, owing to its great height above the sea-level, its climate is mild and healthful. This region is drained by many large rivers.

Southern Africa is mountainous, but it contains many fertile valleys and plains well adapted to agriculture and stock-raising. The Kalahari Desert, though destitute of streams, is covered during a great part of the year with grass. The lakes of Africa are confined chiefly to the high, equatorial region, and are remarkable for their number and size. Lake Victoria is the largest lake in the world. Its outlet is the Nile river.

The River Nile flows through the most important part of Africa. Its lower course is in a region almost rainless, and for more than 1,500 miles it does not receive a single tributary. It is fed by the annual rains and the melting snows of the high mountains.

The water of the Nile is highest from May till September, when the lower valley is covered with a fine, rich soil, brought down by the flood; and the seeds which are scattered over the water, as it subsides, bring forth abundant crops of grain. Cotton, also, is an important product of the Nile Valley.

The Congo, first explored by Livingstone, and afterward by Stanley, drains the most fertile part of the continent. Its source is in the region of heavy rains.

The region of greatest heat is in the Egyptian Soudan. There the midday temperature during the summer months is often 140 deg. Fahr., while the nights are sometimes so cold that ice forms. In the desert, hot winds, known as simooms, are prevalent, and sand storms are often destructive. The coast, generally, is very unhealthy.

Southern Africa possesses a mild and genial climate. Here are the principal settlements formed by Europeans in Africa. This is the home of the Caffre.

Northern Africa yields grain, cotton, dates, almonds, and olive-oil. Rice is a leading product of the Guinea Coast. The date-palm flourishes along the shores of the Mediterranean and in the oases of the desert. The famous baobab-tree is found in Central Africa. It is famous for its great size and age. Groves of teak, mangrove, ebony, and India rubber abound on the western coast. Gum arabic, myrrh, cotton, coffee, sugar-cane, and spices are products of Eastern Africa. The islands produce tropical fruits, wine and amber.

Africa is noted for large and ferocious animals, and venomous serpents. The lion is found in all parts of the continent. The hippopotamus inhabits the upper Nile, while the marshes and streams of the low coast contain many crocodiles, lizards, and other reptiles.

The gorilla, the largest and fiercest of apes, and the chimpanzee, are met with in the west. The elephant, giraffe, and the two-horned rhinoceros, belong in Central and Southern Africa. There are many species of deer and antelope. The zebra and the gnu or horned horse, are numerous in the grassy plains of Southern Africa. The ostrich is hunted in various parts of the continent; but in Southern Africa, the rearing of those birds for their plumes is an important occupation.

The most useful animal in crossing desert regions is the camel. Travelers and merchants, with their camels carrying merchandise,

cross the desert in companies, called caravans. For more than four thousand years camels have been almost the sole means employed to carry merchandise across the deserts. The camel will carry a load of four or five hundred pounds weight fifty miles a day for five or six days, although he may not be supplied with food or water during that time.

The coasts of Guinea and Senegambia have long been celebrated for gold. Copper, lead, salt, and saltpeter are obtained in some places.

Important diamond fields are in South Africa.

Africans comprise three races—the Caucasian, Negro, and Malay.

The Moors, Arabs, Berbers, Egyptians, and various tribes of the north are Caucasians; the tribes of Central and Southern Africa, and the east and west coasts, Negroes; and those of Madagascar, Malays.

Excepting the European colonists who have settled along the coast, nearly all the Caucasian inhabitants are Mohammedans, and are in a low state of civilization.

Most of the Negro tribes of Africa are savages, in a degraded condition. There are, however, several tribes which cultivate the soil, raise cattle, and observe laws.

The Barbary States, situated on the Mediterranean coast, extend from the Atlantic Ocean to Egypt.

The climate is mild and healthful. South of the Atlas Mountains, it is extremely hot and arid. There are two seasons, a rainy and a dry.

The highlands are covered with forests of cedar, pine, cork-trees and other valuable timber. The lowlands are finely adapted to agriculture.

The most important productions are dates, oranges, bananas, pomegranates and figs.

The natives consist of Moors, Arabs, and Berbers. Although descended from a very enlightened people, they are extremely ignorant, degraded and treacherous. The foreigners are mainly French and Jewish colonists. Wherever they settled, agriculture, manufactures and commerce quickly followed.

Morocco is under the absolute government of a sultan, who is subject to Turkey. The country is sparsely settled. Cattle, sheep, and goats are reared extensively.

In tanning and dyeing leather the people exhibit great skill, and the leather manufactured there is exported to all parts of the world.

Morocco and Fez are the most important cities. The sultan holds court at one and the other, alternately.

Algeria is a French possession, and contains a large European population. It is one of the most prosperous of the Barbary States.

Several lines of railway are in operation, and caravans, trading in ivory, gums and ostrich feathers, penetrate the interior of Soudan.

Algiers is the capital and commercial center. It is connected with Marseilles by a submarine telegraph cable.

Tunis, also, is a French possession. It was formerly subject to Turkey. It is noted for its olive groves, date plantations, coral fisheries, and the manufacture of red caps, soap and leather.

Tunis, near the site of ancient Carthage, is the capital and sea-port. It is a very old city.

Tripoli, though nominally a Turkish province, is a despotic monarchy, governed by a bey.

It contains no rivers, and rain seldom falls; yet, on account of heavy dews, the soil is productive.

The leading exports are wool, hides, and ivory.

Tripoli is the capital and sea-port. Mourzouk, the capital of Fezzan, is the center of a large caravan trade,

The Nile Countries comprise Egypt proper, Nubia, and the Egyptian Soudan, or Kingdom of the Mahdi. They are governed by a hereditary monarch called the khedive, and are subject to Turkey.

The greater part of Egypt is a desert. Along the lower course of the Nile, only the narrow valley, which is annually inundated, is capable of producing crops.

Since the completion of the Suez canal rapid progress has been made in developing the agricultural and commercial interests of Egypt.

Railways have been built, and by means of irrigating canals extensive tracts of desert land have been made productive.

Most of the wealthier classes have been educated in Europe, and foreign customs are being introduced throughout the country. The laboring classes are greatly oppressed, and are practically in a state of slavery.

The principal products of Egypt are cotton, grain, sugar and rice. Gum arabic, ivory, indigo, and ostrich feathers are obtained in the Soudan. Manufactories have been established in the larger cities and towns.

Cairo, the capital of Egypt, is the largest city in Africa. Alexandria is the principal sea-port. Railways connect both cities with Suez, the southern sea-port of the Suez Canal. The northern, or Mediterranean, seaport of the canal is Port Said.

The other seaports of Egypt are Rosetta and Damietta.

Nubia and the Egyptian Soudan are inhabited by warlike tribes of Arab and Negro descent.

Khartoum, at the junction of the Blue and the White Nile, is the center of a large caravan trade.

Abyssinia is a high and rugged plateau, containing a number of fertile valleys. The climate, owing to the high altitude of the surface, is mild and healthful. The people, though of a dark, or swarthy complexion, belong to the Caucasian race, and consist chiefly, of Copts and Berbers, who are ignorant and degraded.

Abyssinia consists of several independent states, having no general government.

Gondar is the capital. **Massowah**, an Egyptian possession, is the only sea-port.

South Africa comprises several prosperous colonies. Some of these belong to Great Britain, others are independent states founded by Dutch settlers, while others still are the homes of native tribes.

Cape Colony and **Natal** are British colonies. The surface of the land is high, undulating and well adapted to grazing.

The leading occupations are the raising of cattle and sheep, and the rearing of ostriches. Wool and ostrich feathers are among the most valuable exports.

Cape Town, the capital of Cape Colony, is the chief sea-port of South Africa.

Pietermaritzburg is the capital of Natal.

West Griqualand, also a possession of Great Britain, contains the most productive diamond mines in the world.

Kimberly, its capital, is situated in the diamond fields, and is the chief market for rough diamonds.

Caffraria and **Zululand** are inhabited by natives who are noted for their intelligence, fine physical appearance and great bravery. Both countries are governed by native chiefs, although subject to Great Britain.

The **Orange Free State** and the **South African Republic** (formerly **Transvaal**) are inhabited by Dutch farmers, called **Boers**. The **Boers** are noted for their bravery and love of independence.

Bloemfontein is the capital of the **Orange Free State**, and **Pretoria** of the **South African Republic**. Wool, cattle and grain are the exports.

Central Africa includes the regions comprised in **Sahara**, or the **Great Desert**, **Soudan**, the **Congo Free State** and the territory southward to the **Boer republics**.

Sahara contains about twenty oases, inhabited by wandering tribes, who live chiefly by plundering the caravans.

Soudan is inhabited by semi-barbarous tribes, each of which is governed by a chief, whose will is law.

Their occupation is herding cattle, but they are constantly at war with one another.

Timbuctoo, **Sackatoo** and **Kouka** are centers of a large caravan trade.

The **Congo Free State** embraces the basin of the **Congo River**. It is subject to the **King of Belgium**.

Zanzibar is a strip of coast nearly 1,000 miles long, including a number of small islands. It is an absolute monarchy, governed by a sultan.

Zanzibar, on an island of the same name, is the capital. It is the center of a large trade in ivory, gum copal and spices. Trade is almost exclusively in the hands of **Hindoo** and **Arab** merchants.

Mozambique includes a number of Portuguese colonies, extending

from Zululand to Zanzibar. The city of Mozambique, the chief center of trade, is the residence of the Governor-General.

The West Coast is covered with forests of valuable timber. The highlands contain gold and silver.

Senegambia includes most of the basins of the Senegal and Gambia rivers. English and French traders have settled along the coast.

Sierra Leone is a prosperous English colony. It is inhabited by Negroes, many of whom were rescued from slave-ships. Free-town is the capital.

Liberia is a small republic, originally established as a colony for freed slaves from the United States. Monrovia is the capital.

Dahomey and Ashantee are absolute despotisms.

The natives are superstitious, warlike and ferocious. In Dahomey wholesale murders, or human sacrifices, form part of certain celebrations. Here the king has an army of women whose weapons are muskets, swords and clubs. Ashantee, also, is ruled by a native king, who is independent.

Madagascar, a kingdom, contains a civilized population, whose principal industries are agriculture and herding.

St. Helena belongs to Great Britain; the Canary Islands to Spain; the Madeira, the Azores and the Cape Verd Islands to Portugal.

NORTH AMERICA.

North America is the northern division of the western continent. It extends almost from the North Pole to the Equator.

The shape of North America is nearly that of a triangle, broad at the north and tapering almost to a point at the south. Its length is nearly 5,000 miles. Its area is equal to one-half that of Asia, or two and one-half times that of Europe. Its northern and eastern coasts are remarkable for numerous indentations and good harbors, while the western coast has but few.

The western part of the continent is a high plateau, on which are many nearly parallel ranges of mountains. The direction of these ranges is from north-west to south-east. They constitute the Rocky Mountain system, and form the main axis of the continent. The culminating ranges of this system inclose a large, oval-shaped plateau, called the Great Basin.

The Appalachian system, in the eastern part, is composed of several parallel ranges, extending from north-east to south-west. Their average height is about 3,000 feet, or about one-third that of the Western Highlands.

Volcanoes are numerous in the Western Highlands, and several of them are constantly active.

The highest peak of the Rocky Mountain system is Mt. St. Elias, 19,500 feet; and of the Appalachian system, Mt. Mitchell, 6,707 feet.

The great central plain, extending from Hudson Bay to the Gulf of Mexico, lies between the two mountain systems. The Height



MAP OF
NORTH & SOUTH
AMERICA

of Land, an almost imperceptible divide, crosses the plain, separating the Arctic Slope from the Gulf Slope.

The lakes of North America are remarkable for their number and size. If a straight line were drawn from Chesapeake Bay to the mouth of the Mackenzie River, it would pass through nearly every large lake in North America.

The great lakes contain about one-half the fresh water on the globe. Lake Superior, the largest, however, is exceeded in size by Lake Victoria, in Africa.

Salt and alkaline lakes are numerous in the Pacific highlands. Great Salt Lake, in Utah, has an area twice that of Rhode Island. With the exception of the Caspian Sea, it is the largest salt lake on the globe.

The Mississippi basin is the largest basin in the world, excepting that of the Amazon river. Its chief stream, the Mississippi and Missouri, exceeds every other river in length.

The Yukon river, second in size, is, in many respects, unlike any other river on the continent. Its upper course is remarkable for falls and rapids. Its lower part contains many islands, and is often five and six miles wide.

The Columbia, Colorado, and many of their tributaries which rise in the interior of the continent, flow, in some places, through deep canons.

The soil is very productive. The Mississippi basin and the slopes of the Atlantic ocean and the Gulf of Mexico contain soil of great fertility. On the Pacific coast the climate is much milder than in corresponding latitudes on the Atlantic coast. The northern part of the continent is extremely cold; the central portion is characterized by hot summers and cold winters; the southern part, has a tropical climate. The rain-fall is greatest in the north-west and south-east. The rains of the Pacific Coast fall mostly in winter. In northern regions, vegetation is limited to mosses, lichens, and a few shrubs. A belt of cone-bearing and deciduous trees extends through the middle of the Temperate Zone. In the south, these are replaced by palms, tree-ferns, bananas, and agaves. Grasses are abundant throughout the Temperate Zone. Indian corn and tobacco are native to North America.

The fur seal, whale, walrus, polar bear, and musk-ox are the most important animals of the northern regions. The bison, deer, bear, wolf, and panther are common in the north central part. The grizzly bear is found in North America only. The monkey in the tropical regions.

Reptiles are numerous in the south. Nearly 500 species of birds are known. Fish are abundant; the cod, salmon, herring and mackerel are valuable as food.

The mineral resources of North America surpass those of any other continent. Iron and coal, minerals on which civilization and commerce so greatly depend, are abundant and widely distributed. Petroleum and natural illuminating gas are found in the Alleghany Mountains and the Coast Range. Gold, silver, and quick-silver are found chiefly in the Western Highlands; copper and lead, in

the vicinity of the Great Lakes; and zinc, in the Eastern Highlands.

American Indians inhabited North America at the time of the explorations in the 15th and 16th centuries. A civilized people preceding these had disappeared from the region which now constitutes the United States, as the ruins of their habitations bear witness.

Civilized people were found by the Spanish explorers of Mexico. They were conquered by the Spaniards, and gradually disappeared.

The Esquimaux, who are found in the Arctic regions only, are thought by many to be of Mongolian origin. The Indians, also, are said to be of Mongolian descent, and to have come, originally, from Asia.

The white race, the ruling element of the population, are the descendants of Europeans. The inhabitants of Mexico and Central America are the descendants, in part, of Spaniards and native Indians.

The Negroes, originally brought to America as slaves, are fast becoming educated.

Industries.—The geographical distribution of the various industries is more noticeable in North America than in the other continents. Foreign commerce, manufactures, and fisheries are confined chiefly to the coasts and navigable streams.

Agriculture is carried on, principally, throughout the fertile prairies and river-valleys of the interior. Stock-raising is most profitable where there are mild winters and an abundance of grass.

Mining is a leading industry in the highlands.

North America includes Danish America, British America, the United States of America, Mexico, Central America and the West Indies.

Danish America belongs to the Kingdom of Denmark. It comprises Greenland, Iceland, and a few smaller islands.

Greenland extends farther north than any other country, or to within about 400 miles of the North Pole. Its area is nearly one third that of the United States.

The surface of Greenland is covered with ice and snow. The coasts are scored by enormous glaciers. The products are fish, oil, and reindeer skins.

The people comprise a few Danes and a number of Esquimaux tribes.

Iceland, which is about half the size of Kansas, is noted for volcanoes, geysers, glaciers, and lava fields. Its southern part has a milder climate than its northern, and contains all the settlements.

The Icelanders are generally educated. Their trade is carried on with Copenhagen, the capital of Denmark. Their capital, Reikiavik, contains a college.

THE UNITED STATES.

A Republic, it is the middle division of North America. **Alaska**, a territory occupying the northwestern part of North America, is partly in the North Temperate Zone and partly in the North Frigid Zone. It was purchased from Russia by the United States. Extends from the Atlantic Ocean on the east to the Pacific Ocean on the west, from the Dominion of Canada on the north to the republic of Mexico and the Gulf of Mexico on the south. The distance across the United States from east to west through the center, is about 2,600 miles, and from north to south about 1,600 miles. The shortest distance between the Dominion of Canada and the Gulf of Mexico is about 800 miles.

The high mountains and plateaus of the United States are in the western part. There the mining of gold and silver, and the raising of cattle and sheep, constitute the leading occupations of the people.

The plains, prairies, slopes and lowlands extending from the great highland region eastward to the Atlantic Ocean, are remarkable for their fertile soil, which produces immense crops of grain, cotton, fruits and vegetables.

The valleys of the Pacific Slope are noted for their mild, genial climate and their great yield of wheat, fruits and vegetables.

Coal and iron are mined extensively in various parts of the United States.

The variety and importance of the products and industries of this country are due principally to its vast extent of territory and its great diversity of soil, elevation and climate.

Its increase in population, wealth and power is unsurpassed. A century ago there were but thirteen states, containing less than 4,000,000 inhabitants. Now there are forty-five states, six territories, and the District of Columbia, with a total population of more than 70,000,000. A territory is under control of the General Government of the United States, until it is admitted into the Union as a state by Congress. The original thirteen states were New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina and Georgia. The first states admitted after them were Kentucky, Vermont, Tennessee, Ohio, Louisiana, Indiana and Mississippi.

The first colonies in the region now called the United States were established by the English, in Virginia, in 1607; by the Dutch, in New York, in 1613; and by the Pilgrims, in Massachusetts, in 1620.

All were subject to Great Britain from 1664 to 1776, when the thirteen colonies declared themselves free and independent states.

Each state has its own constitution, laws, legislature, and governor, while all the states are united under the constitution and laws of the United States. A state is entitled to be represented in the United States Senate by two senators, and in the House of Representatives by one member for every 154,325 inhabitants.

Every state is entitled to, at least, one member. A territory may send a delegate to the House but he has no vote. There are at present 76 senators and 325 members of the House of Representatives. The states which have the largest representation in the House are New York 34 members, Pennsylvania 28, Ohio 21, and Illinois 20. The states and territories of the United States have legislatures consisting of two houses similar to those of Congress, elected by the people. They are divided into counties, which are, in some cases, subdivided into townships. The divisions of Louisiana corresponding to counties are called parishes. The highest officials in a state are the Governor, Lieutenant-Governor, Secretary of State, Attorney-General, and Superintendent of Schools. Towns and villages are collections of houses and inhabitants. Cities have certain rights and privileges not possessed by towns and villages. The affairs of a city are usually controlled by its mayor and aldermen. A county seat is the chief town in which the official business of the county is conducted.

The general government comprises three departments, the legislative, the judicial and the executive. It has control of all matters pertaining to commerce and treaties with foreign countries, the army and navy, the declaration of war, the post-offices, and the coining of money.

The legislative power is vested in Congress, which consists of the Senate, (composed of two senators from each state, chosen by the state legislature, for six years. The Vice-president of the United States is the president of the Senate) and House of Representatives. Congress holds its sessions in Washington. The session of Congress begins on the first Monday in December of each year. A law cannot take effect unless passed by both the Senate and the House of Representatives, and approved by the President. If, however, he disapprove a measure which has been passed by both houses of Congress, it may become a law on being repassed by two-thirds of each house.

The judicial power is vested in the Supreme Court, which interprets the laws. The Supreme Court consists of a chief-justice and eight associate justices, all appointed for life by the president with the consent of the Senate.

The executive power is vested in the President, whose duty is to execute or enforce the laws. He is elected for four years. The President and Vice-President are elected by a number of electors, called the electoral college, chosen by the people of the states, or their legislatures. Each state is entitled to a number of electors, equal to the whole number of senators and representatives to which it is entitled in Congress. In case of a vacancy in the office of President, it shall be filled by the Vice-President. If there be no Vice-President, the law of 1886 vests the succession in those members of the cabinet who are constitutionally eligible, in the following order: Secretary of State, Secretary of the Treasury, Secretary of War, Attorney-General, Postmaster-General, Secretary of the Navy, and Secretary of the Interior.

MEXICO.

Mexico is a republic, composed of twenty-seven states, a federal district and the Territory of Lower California. It is situated in the North Temperate and the Torrid Zone, and is about one-fourth the size of the United States.

The surface is a high plateau, fringed by a belt of low, narrow coast. Several ranges of the Rocky Mountain System, of which the Sierra Madre is the highest, extend through the country from north-west to south-east.

A chain of volcanoes crosses the highest part of the plateau. The summits of several of these are above the limit of perpetual snow. Vol. Popocatepetl is the highest mountain in Mexico, and, next to Mt. St. Elias, the highest in North America.

The lakes are small and unimportant. Most of them are situated in the Valley of Mexico.

The rivers are short, and, excepting the Rio Colorado and Rio Grande, not navigable above tide-water.

The climate is hot and pestilential along the narrow coast, but mild and healthful in the high interior. In going from Vera Cruz to the city of Mexico, one may, within a few hours, experience nearly every gradation of climate, and find the productions peculiar to each zone. There are but two seasons; the rainy, and the dry.

The vegetable productions comprise mahogany, rose-wood, mesquite, various dye-woods, the agave, and cactus. Oranges, lemons, pine-apples, olives, and bananas are extensively cultivated. Tobacco, corn, sugar-cane, cocoa, beans, coffee, vanilla, and the indigo-plant are also grown.

The wild animals of Mexico comprise the grizzly bear, puma or Mexican lion, and coyote. Venomous reptiles and insects are numerous. Cattle, horses, and donkeys, in vast numbers, are the principal domestic animals.

The minerals include gold, silver, tin, quicksilver and marble.

The leading industries are agriculture, stock-raising, and mining. Coffee, sugar, cotton, cochineal, vanilla, metals, hides, and ornamental woods are exported. Great progress has been recently made in the building of railroads; but the unsettled condition of the government depresses every kind of industry.

The people consist chiefly of mixed races. About one-tenth are Creoles, or descendants of Spanish colonists. Spanish is the language of the country.

Mexico, the federal capital, is the metropolis. It is in the Valley of Mexico, elevation about 7,400 feet above sea-level.

Guadalajara and Puebla are manufacturing centers.

Vera Cruz is the chief Atlantic sea-port.

Acapulco and Guaymas are the principal ports on the Pacific Coast of Mexico.



GULF of

MEXICO

MAP OF
MEXICO

- 1 Lower California
- 2 Sonora
- 3 Sinaloa
- 4 Chihuahua
- 5 Durango
- 6 Coahuila
- 7 Nuevo Leon
- 8 Tamaulipas
- 9 San Luis
- 10 Zacatecas
- 11 Jalisco
- 12 Aguascalientes
- 13 Guanajuato
- 14 Queretaro
- 15 Hidalgo
- 16 Vera Cruz
- 17 Puebla
- 18 Tlaxcala
- 19 Michoacan
- 20 Mexico
- 21 Colima
- 22 Guerrero
- 23 Oaxaca
- 24 Ajusco
- 25 Jalisco
- 26 Chiapas
- 27 Campeche
- 28 Yucatan

Longren-Brown's Chicago

Guatemala

Yucatan

Chiapas

Veracruz

Oaxaca

Guatemala

CENTRAL AMERICA.

Central America forms the most southern part of **North America**. It comprises five republics, and the British colony of **Balize**.

The surface resembles that of Mexico, being a high plateau situated between low coasts. The climate, however, is hotter and more moist, and its vegetation more luxuriant.

It contains several volcanoes. Destructive earthquakes are of frequent occurrence.

The principal products are coffee, dye-woods and sugar. Gold, silver, and coal are found in the highlands.

The inhabitants are chiefly meztizos and Indians. The white people are mainly of Spanish descent. There are many European merchants and planters in Balize and Costa Rica. The language of the country is Spanish.

Guatemala, the largest city of Central America, is the chief commercial port.

The West Indies comprise two chains of islands, extending southeast from the coast of North America.

The Bahama Islands, about 600 in number, are low, coral formations. Their climate is warm and healthful.

The sponge fisheries constitute the chief industry.

Oranges, lemons and pine-apples are the principal fruits. Salt is obtained from the lagoons of Turk's Island, by evaporation.

Nassau, the capital and commercial port, is situated on Providence Island.

The Greater Antilles comprise the islands of Cuba, Hayti, Jamaica, and Porto Rico. Their surface is mountainous; their climate and productions are those of tropical regions. The population is made up of Spaniards, Creoles and Negroes.

Cuba, celebrated for its forests of ebony, mahogany and rosewood, commenced an open revolt against its Spanish oppressors early in 1895. American sympathy with the Cubans, and the blowing up of the Maine, Feb. 15, 1898, led to Spanish-American war, which freed Cuba.

The Island of Hayti comprises two independent republics, Hayti and Santo Domingo. The people and their rulers are Negroes.

Port au Prince is the capital of Hayti; and Santo Domingo of Santo Domingo.

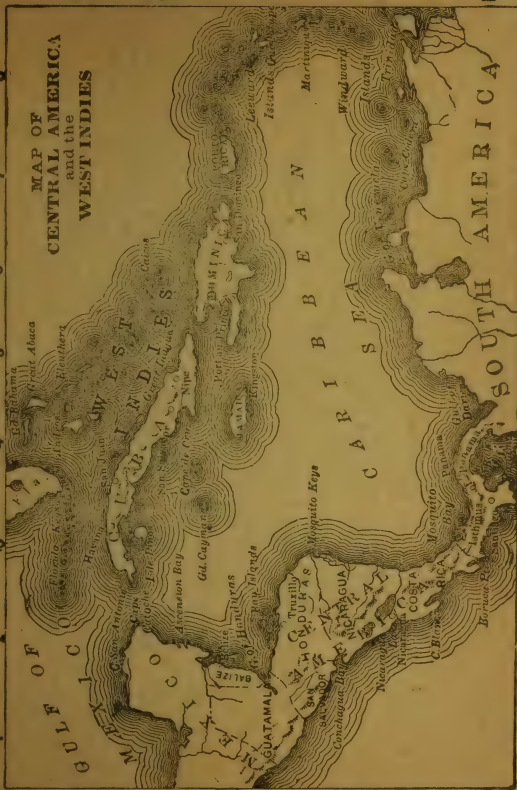
Jamaica yields allspice, in addition to the products which are similar to those of the other islands. Rum is the principal export. Turtle-fishing is important.

Kingston is the capital.

Porto Rico ceded to United States, 1898.

The Lesser Antilles extend from Porto Rico to the mouth of the Orinoco River.

MAP OF
CENTRAL AMERICA
and the
WEST INDIES



SOUTH AMERICA.

South America was discovered by Columbus in 1498, near the mouth of the Orinoco. The early Spanish discoverers found an Indian village near Lake Maracaybo, built over the water on piles. As it reminded them of Venice, they called it Venezuela, which means Little Venice.

Balboa, in 1513, crossed the Isthmus, and was the first man who saw the Pacific Ocean from the coast of the Western Continent; but, long years before this, the ancient Peruvians had lived there. They had built strong cities, fine temples, great aqueducts, and splendid roads and bridges, ruins of which still remain. Peru was invaded by the Spaniards, under Pizarro, who cruelly treated the natives, destroying their cities and plundering their temples.

South America was thus conquered and settled by Spaniards, except Brazil, which was settled by Portugese, and Guiana, which was settled by British, Dutch and French.

About 300 years afterward the people of the countries of South America (except Guiana) declared themselves independent of Spain and Portugal.

Simon Bolivar was the most distinguished general and patriot of South America. He was called the "Liberator," also the "Washington of South America."

South America is the Southern part of the Western Continent.

Its area is nearly twice that of the United States. In shape it is a triangle, which tapers to a point toward the south. The coast line has but few indentations.

Like North America it has mountain ranges in the west and east and a vast plain in the center.

The Andean Plateau, the main axis of the continent, extends along the entire western coast. It supports parallel ranges, which constitute the Andean System. Its high peaks are always covered with snow. The highest measured peak is Mount Aconcagua, which is about 24,000 feet in height. The most celebrated volcano is Cotapaxi.

The plains of South America cover about one-half its area. The llanos of the Orinoco are treeless plains. During the rainy season they become a vast inland sea. With the disappearance of the water comes a profusion of tropical vegetation, which quickly withers under the intense heat of the sun.

The largest lakes in South America are Maracaybo and Titicaca. The latter is 12,000 feet above the sea-level.

The Amazon is the largest and one of the longest rivers in the world. Its course is nearly along the Equator. Its highest source is within 70 miles of the Pacific Ocean. At its mouth the river is nearly 200 miles wide. Its current and the freshness of its water are perceptible 200 miles out at sea.

The soil is fertile in nearly all parts of the continent. The southern part, however, is barren, rocky and desolate.

The climate along the sea-coast is generally warm, except in the south. In the interior of the lowland plains, the heat is almost intolerable.

The banks of the Amazon produce a wonderful variety of ornamental woods, such as mahogany, rosewood, vegetable-ivory, and tortoise-shell wood. The India rubber, cacao, and cocoa-palm trees are abundant.

The lowlands abound in wild grasses, and on the mountain slopes are found the cinchona-tree and many kinds of medicinal plants.

The chief cultivated plants are coffee, sugar-cane, cotton, tobacco, indigo, manioc, and spices.

Minerals.—South America is rich in minerals. A large part of the silver now in use in the world was obtained from the Andes Mountains. Gold is mined in Colombia and Brazil.

Industries.—The chief industries of the inhabitants of South America are herding, agriculture, and mining.

BRAZIL.

The Republic of Brazil is the largest country of South America.

It comprises the eastern plateau and the basins of the Amazon and the La Plata. The northern and western parts are low, swampy, and, during the rainy season, completely inundated.

Near the coast, the valleys are rich and well cultivated.

The greater part of the country has a tropical climate.

Coffee, cotton, sugar, tobacco, rice, grain, tropical fruits, nuts, and spices are raised in abundance.

The leading industries are cattle-raising and agriculture.

The natives live in the interior. The ruling people are the Portuguese, or their descendants.

Rio Janeiro, the capital, is the largest city in South America. Its chief exports are coffee and India rubber.

Bahia is the center of the diamond trade.

The Andes Republics comprise the United States of Colombia, Ecuador, Peru, Bolivia, and Chili occupy the mountainous region along the coast of the Pacific Ocean.

The coast is very steep, affording few harbors.

The surface is rugged. The high plateaus are barren, but the mountain sides and the valleys afford pasturage, and yield grain and other products.

This region is subject to earthquakes, and it contains some of the most celebrated volcanoes in the world.

The governments are republican in form, modeled after our own; but they are subject to frequent revolutions.

Bogota, although within four and a half degrees of the Equator, has a climate of perpetual spring, due to its altitude of nearly 9,000 feet. Its wet seasons are our spring and autumn; its dry seasons, our summer and winter. It is warmest in February, and coldest in December. Grain is sown twice a year. Most of the houses are built but one story high, owing to the frequency of earthquakes. There are, however, many large, splendid buildings.

Panama, on the isthmus, is the largest and most important city.

It is connected by railroad with Colon, or Aspinwall. Its climate is tropical and unhealthy.

Quito, the capital of Ecuador, is situated on a very high plateau, surrounded by volcanoes.

Guayaquil is the chief commercial city.

Lima, a few miles from the coast, is the capital of Peru. **Its port is Callao.**

Arequipa was several times destroyed by earthquakes.

La Paz is the capital and largest city of Bolivia.

CHILI.

Chili is the most powerful and enterprising of the Spanish-American republics.

It is the same in extent from north to south as the United States from east to west — about 2,600 miles.

It is situated on the western slope of the Andes and extends from the Bay of Arica to Cape Horn.

Along the coast are numerous islands, which are rich in guano and niter.

Its climate is temperate and moist.

The people are chiefly of Spanish origin. They are active, industrious and intelligent.

Santiago is the capital. Valparaiso is the largest commercial city on the west coast of South America.

The Argentine Republic is a broad and level country, comprising most of the pampas.

The people are engaged in herding and in preparing dried beef, hides, tallow and horns, for export.

Buenos Ayres, the capital and largest city, has an extensive commerce.

Paraguay and Uruguay resemble the Argentine Republic in surface, products and the occupations of the people.

Montevideo, the capital of Uruguay, is an important commercial city.

Asuncion is the capital of Paraguay.

Patagonia with Terra Del Fuego at its southern end forms the point of the pear-shaped continent of South America.

It is for the most part a region of steppe-like plains rising in a succession of abrupt terraces, with only a thin clothing of coarse brushwood.

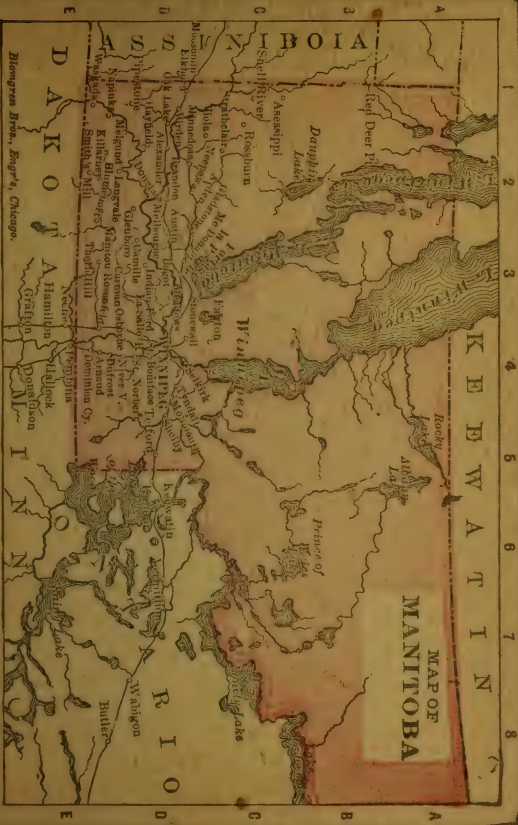
Vast herds of guanaco form the chief means of subsistence for the aborigines, famous for their huge size and wild habits.

Four-fifths of Patagonia belong to the Argentine Republic; the balance to Chili.

Guiana embraces three colonies—British, French and Dutch. Its products are like those of Venezuela.

Cayenne is the capital of French Guiana, Georgetown of British Guiana, and Paramaribo of Dutch Guiana.

MAP OF MANITOBA



DOMINION OF CANADA.

The Dominion of Canada embraces the provinces of British Columbia, Manitoba, Ontario, Quebec, New Brunswick, Nova Scotia and Prince Edward Island, besides several territories and districts. Its area is about equal to that of the United States.

The surface is mostly a vast plain, bordered by a high plateau in the west, on which stand the Rocky mountains and the Cascade range.

A chain of lakes extend from the mouth of the Mackenzie river to the Great Lakes. The St. Lawrence, Nelson and Mackenzie rivers drain the principal basins.

The climate of the Pacific slope is mild, but elsewhere the winters are of great severity. The summers are short and in the southern provinces hot.

A belt of timber, mostly pine, extends from the Rocky mountains to the Atlantic ocean. The Pacific slope is covered with forests of fir, the valley of the St. Lawrence contains growths of maple, oak and elm.

The central prairie regions are covered with luxuriant crops of wild grasses, and, where cultivated, yield large crops of grain.

The wild animals comprise the bison, bear, moose, wolf, beaver, otter, ermine, mink and marten, most of which are hunted for their skins. The coast waters abound in seal, cod and salmon.

The minerals comprise gold, silver and coal, which are mined in the west. Copper and iron are found near Lake Superior. Coal is mined in Nova Scotia also.

The chief industries in the eastern provinces are lumbering and fishing. The central regions are agricultural. The uninhabited regions of the north yield valuable furs in great quantities.

Most of the inhabitants are of English descent. In the eastern provinces, however, there are many descendants of the early French settlers.

The government of the dominion is vested in the Governor-General and Parliament. The Governor-General is appointed by the sovereign of Great Britain. Parliament consists of a Senate and a House of Commons. The members of the Senate are appointed by the Governor-General. The members of the House are elected by the people. Each province has a Lieutenant-Governor and a legislature.

Ottawa is the capital of the Dominion of Canada. It contains magnificent public buildings.

British Columbia, including Vancouver and other islands, is the largest and most mountainous province of the dominion. Its mines of gold and coal are valuable. Lumber, fish and wool are exported.

Victoria, on Vancouver Island, is the capital and metropolis.

Manitoba is noted for wheat and furs. Steamers ply on the Red River of the North, and on Manitoba and Winnipeg lakes.

Winnipeg, the capital, is the agricultural and commercial center.

Ontario, the most important province, contains nearly one-

North Western
Part of
ONTARIO

**MAP OF
ONTARIO**



third the population of the dominion. Grain, fruit, and lumber are the principal products. Petroleum, copper, and iron are obtained near Lake Superior.

Toronto, the capital of the province, is noted for its manufactures and educational institutions. It is an important railway center and lake-port.

Hamilton, situated near the western extremity of Lake Ontario, is an important lake-port and manufacturing center.

Quebec is hilly. Its winters are extremely cold; its summers, warm, short, and foggy.

Its agricultural region is south of the St. Lawrence, and produces good crops of oats, potatoes, and hay. The most valuable export is lumber.

The people of this province are, chiefly, descendants of early French settlers.

Quebec, the capital, is the oldest city in the dominion. The heights, on which the upper portion of the city is built, are strongly fortified. The fortress of Quebec, next to that of Gibraltar, is considered the strongest in the world. It was, however, captured by General Wolfe during the French and Indian War. The principal business part of the city occupies the low ground.

Montreal, the metropolis, is noted for its magnificent cathedrals, and the tubular bridge across the St. Lawrence River.

New Brunswick is noted for lumber and ship-building.

Fredericton is the capital of New Brunswick.

St. John is the metropolis and largest port.

Nova Scotia has more sea-coast than any other province. Ship-building and the fisheries constitute the chief industries. Its coal-fields are extensive. Gold and gypsum are also mined.

Halifax, the capital, has an excellent harbor, and is the chief British naval station in North America.

Prince Edward Island, the smallest province, is the most densely populated. Agriculture and fishing are the chief occupations. Fish and eggs the principal exports.

Charlottetown is the capital.

Newfoundland is noted for its barren soil, cold climate and dense fogs.

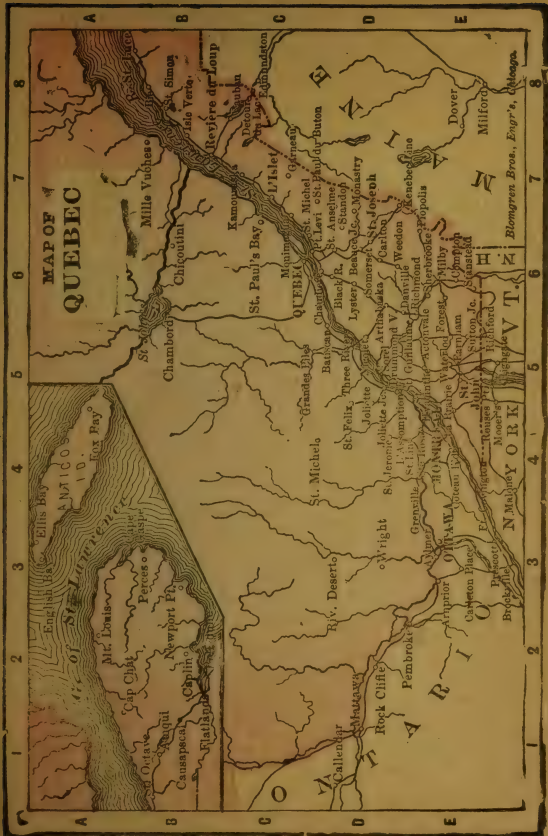
The dense fogs which prevail in this latitude are due to the meeting of the cold Arctic Current with the warm waters of the Gulf Stream. During the spring and summer, icebergs and pack-ice are brought down by the Arctic Current, and drift about until melted. It is for this reason that the steam-ship route between America and Great Britain is one of the most dangerous in the world.

Its cod, salmon and seal fisheries give employment to about nine-tenths of the inhabitants.

St. John's, the capital, is the most easterly city in North America, south of Greenland.

The Territories were formerly owned by the Hudson Bay Company.

MAP OF
QUEBEC



NEW HAMPSHIRE.

One of the thirteen original states. Named for Hampshire county, England, called the "Granite State." Ratified United States Constitution June 21, 1788. Union soldiers 33,937. Number counties 10; miles railroad 1,225. All elections Tuesday after first Monday in Nov., number senators 24, representatives 358, sessions of legislature biennial, in even-numbered years, meeting first Wednesday in June. Terms of senators and representatives 2 years each. Number electoral votes 4, congressmen 2, number voters 92,348. Paupers excluded from voting. Dartmouth College, at Hanover, founded 1769. Compulsory education law, common schools excellent, school age 5-15. Legal interest 6 percent, usury forfeits three times the excess. Population, census of 1900, 411,588. Extreme length N. and S. 185 miles, extreme width 90 miles, area 9,305 sq. miles—5,855,200 acres. Coast line 18 miles. Highest peak Mt. Washington. Largest lake, Winnipiseogee, 74 sq. miles. General elevation 1,200 ft. Isles of Shoals form part of state. The White Mountains occupy the northern part of the state with unsurpassed scenery. Soil rocky, with small fertile districts. Hay best crop; corn, wheat, oats and ordinary vegetables do fairly with close cultivation. Forests largely exhausted, except at the north. Cleared lands average \$16½ and woodland \$25 per acre. Mica quarried at Grafton, soapstone at Haverhill, Keene and Franconia, granite at Plymouth, Troy, Roxbury, Concord. State ranks high in cotton manufacturing. CLIMATE.—Winter averages 24, summer 69 deg. Extremes great in White Mountains. Summer short and hot, with violent storms. Rainfall 41 inches. Frost late in spring and early in fall. Winter begins in Nov., cold till May. Snow lies two-thirds of year in mountains, elsewhere 70 to 130 days. Health good. PRINCIPAL INDUSTRIES.—Agriculture, manufacture of cotton, woolens, lumber, leather, boots and shoes, etc. Quarrying mica, granite and soapstone. PRINCIPAL CITIES.—Census of 1900—Manchester, 56,987; Nashua, 23,895; Concord, (the capital), 19,632; Dover, 13,207; Portsmouth (chief harbor) 10,637. The harbor of the latter place, Great Bay, never freezes over.

Salaries of State Officers.

Governor	\$2,000
Secretary of State	\$800 and fees
Treasurer	1,800
Attorney General	2,200
Superintendent Public Institutions	2,000
Three Railroad Commissioners	\$2,000 to 2,500
Adjutant General	1,000
Secretary Board of Agriculture	1,000
Librarian	800
Chief Justice	2,900
Six Associate Justices	2,700

Map of NEW HAMPSHIRE and VERMONT



VERMONT.

First state to join the original 13. Called the "Green Mountain State." Active in war of 1812. Union soldiers furnished, 33,288. Number counties 14. Miles railroad 988. First railroad built from Bellows Falls to Burlington 1849. State elections biennial, first Tuesday in Sept.; number senators 30, representatives 245. Sessions of legislature biennial, in even-numbered years, meeting first Wednesday in Oct. Terms of senators and representatives, 2 years each. Number electoral votes 4, congressmen 2. Bribers excluded from voting. Colleges 2. School age 5-20. Legal interest rate 6 per cent., usury forfeits excessive interest. Population, census of 1900, 343,641. Length N. and S. 149 miles, width 34 to 52 miles, area 9,565 sq. miles, 5,847,040 acres. Highest Point (Green Mountains) about 4,600 ft. Green Mountains run N. and S. through the state and are 3,000 to 4,600 feet high. The surface is generally hilly. At least of mountains drained by the Connecticut, the only navigable river. Small streams abundant. Soil rocky but good in narrow strips on streams. Potatoes best crop. Corn, wheat, oats, hay, hops and buckwheat yield moderately if well attended. Forests remain to considerable extent, but are cut over or culled. Cleared land averages \$17.50 and forest land \$18 per acre. Dairying profitable. Manganese, copper, iron, gold, black, white, red and variegated marble and slate are found, the marble in great abundance. State ranks 1st in quarries, 4th in copper. Temperature ranges from 15 deg. below to 95 deg. above, but changes not sudden; winter averages 18 deg. to 33 deg. Summer averages 66 deg. to 75 deg. Summer short. Rainfall greatest at south and east, where it averages 43 inches; in other sections the average is 35 inches. Snows heavy. Frosts early in fall and late in spring. Snow lies 80 to 140 days. Health excellent. Death rate very low, less than 1¼ in the 100. Industries very varied, numbering 2,900. Principal ones, agriculture, dairying, manufacture of flour, furniture, leather, tin, iron and copper ware, and lumber, mining, quarrying and finishing marbles and stones, and maple sugar making.

PRINCIPAL CITIES, Census of 1900—Burlington, 18,640; Rutland, 11,499; Montpelier (capital) 6,266; Brattleboro and Bellows Falls are thriving towns and seats of large industries.

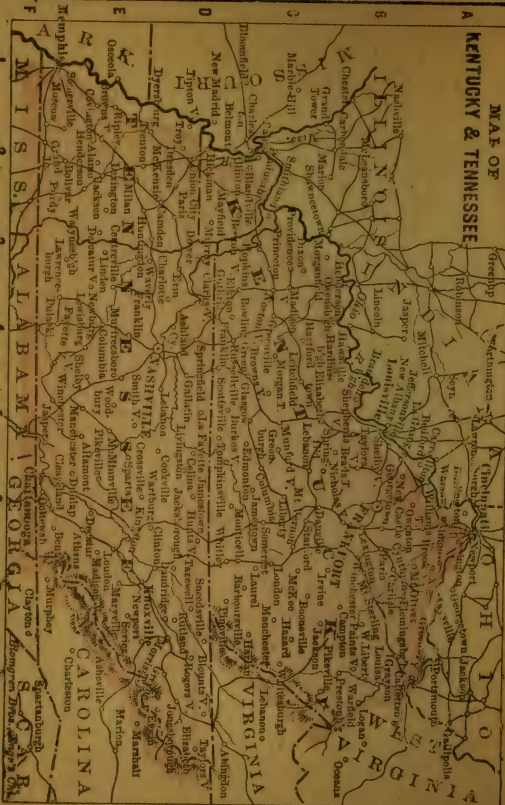
Salaries of State Officers.

Governor, \$1,500; Lieutenant Governor, \$6 a day; Secretary of State, \$1,700; Treasurer, \$1,700; Auditor, \$2,000; Inspector of Finances, \$500; Railroad Commissioner, \$500; Adjutant General, 750; Superintendent of Public Instruction, \$1,400; Chief Justice, \$2,500; Six Associated Justices, \$2,500; Senators and Representatives, \$3 a day; District Judge, \$3,500; Collector of Internal Revenue, \$2,650; Collector of Customs, \$1,000 and fees.

KENTUCKY.

Name Indian. Signifies dark and bloody ground, because the state was the hunting and battle ground of the tribes called "Corn-Cracker State." Louisville founded 1780. Admitted as a State June 1, 1792. State furnished 7,000 troops in war of 1812, and 13,700 in Mexican war. Won great credit in latter Neutral at beginning of civil war. State the scene of continuous cavalry raids during the war, and some sharp battles at Perrysville, Richmond, etc. Put under martial law 1864. Civil government restored 1865. Union soldiers furnished, 75,760. Number counties, 119. State elections biennial, first Monday in August in odd-numbered years. Number senators 38, representatives 100, sessions of legislature biennial in even-numbered years, meeting last day of Dec., holds 60 days. Term of senators 4 years, of representatives 2 years. Number electoral votes 13, number of congressmen 11. Bribers, robbers and forgers excluded from voting. Number of colleges 15, public school system framed in 1838, good schools, school age 6 to 20 years. Legal interest 6%, by contract 10%, usury forfeits excess over 10%. Miles of railroad 3,093. Population census of 1900, 2,147,174. Number of slaves in 1860, 225,489. Extreme length E and W 350, width 179 miles, area 40,000 sq. miles, 25,600,000 acres. River frontage 832 miles, navigable water ways 4,120 miles. Soil fair, except in the famous "Bluegrass Region," extending for 40 or 50 miles around Lexington, and one of the most beautiful sections on the globe. Natural wonder Mammoth Cave, greatest in the world. Kentucky ranks high as an agricultural and stock state. Staple crops, corn, wheat, tobacco, oats, barley, hemp, rye and vegetables. Fruits do fairly. Famous for thoroughbred horses and cattle. Mules and hogs largely raised. At the East in the mountains are immense forests of virgin oak, poplar, ash, chestnut, elm, walnut, cucumber and other valuable timber trees. Coal, marbles, minerals, oil stone, etc., also abound. Iron deposits of immense magnitude are known to exist. Cleared land averages \$20 and woodland \$5 per acre. The average of the former is raised materially by the high prices, often \$100 or more per acre, in the Bluegrass section. Mountain lands rich in timber and minerals and not without agricultural value, rate \$2 to \$5 per acre. The state ranks first in tobacco and fourth in malt and distilled liquors. Climate variable, favorable to health and agriculture, healthfulness not surpassed. Thermometer ranges from 5 deg. below zero to 94 above, rarely greater extremes are known. Temperature averages, summer 75 deg., winter 38 deg., rainfall 50 inches. Snows fall, but disappear in a few days. Sleighing only for a day or so. Winters moderately long. Malaria very rare, except on the Ohio and Mississippi Rivers. Chief Cities—Census of 1900—Louisville, 204,731; Frankfort (the capital); Covington, 42,938. Lexington, former capital, founded 1776, pop. 26,369. Newport, connected with Covington by bridge, pop. 28,301. (Salaries of State Officers, page 439.)

MAP OF KENTUCKY & TENNESSEE



TENNESSEE.

"Big Bend State." First settled 1854. Became a part of North Carolina 1777. Organized as the State of Franklin 1785, but again became part of North Carolina 1788. Ceded to United States by North Carolina 1789. Admitted as state June 1, 1796. Capital, Nashville. First railroad part of N. C., 1853, Nashville to Bridgeport, miles of railroad in 1890, 3,109. Seceded June 8, 1861. Re-entered Union 1866. Number counties 96. State, congressional and presidential elections, Tuesday after first Monday in November, number senators 33, representatives 99, sessions biennial, in odd-numbered years, meeting first Monday in January; holds 75 days. Terms of senators and representatives 2 years each. Number electoral votes 12. Number of congressmen, 10. Legal interest 6 per cent, by contract any rate, jury forfeit, excess of interest and \$100 fine. Schools fair. Miles railroad 2,166. Population census of 1900, 2,020,616. Slaves 1860, 275,519. Extreme length E. and W. 430 miles, width 110 miles, area 42,056 sq. miles, 29,475,840 acres. Mountainous at E. where Apalachians separate state from North Carolina. Soil fair, except in central basin, where it is very productive. State abounds in coal, iron, fine marbles and building stones, copper and other minerals. Possesses one of the finest areas of forest in the Union. Principal timbers, walnut, oak, poplar, ash, hickory, etc. Staple products, mules, hogs, peanuts, corn, wheat, cotton, vegetables of all kinds, potatoes, tobacco, hemp, flax, broomcorn, iron, copper, coal, marbles, etc. Ranks second in peanuts and third in mules. Resources but little developed, 5,000 square miles of coal field, with 3 to 7 workable veins. Cleared land averages \$12.50, forest \$5 per acre. Grape growing pays. Climate one of healthiest in world. Mild and pleasant, and owing to varying elevation very diverse. Snow light, and lays briefly. Ice rarely more than a mere film in thickness. Average temperature winter 38 deg. Summer 75 deg. Extremes seldom occur. Rainfall 45 to 47 inches. Air bracing. Chief Cities.—Nashville, capital, 80,865; Memphis, 102,320; Chattanooga, 32,490; Jackson. . . .; Knoxville, 32,637; Clarksville, ... Industries chiefly agricultural, mineral, lumbering and iron-making.

Salaries of State officers.

Governor	\$4,000
Secretary of State.....	\$1,800, and fees
Treasurer.....	\$2,750
Comptroller.....	2,750
Attorney General.....	3,000
Superintendent of Public Instruction.....	1,800
Adjutant General.....	1,200
Commissioner of Agriculture.....	3,000

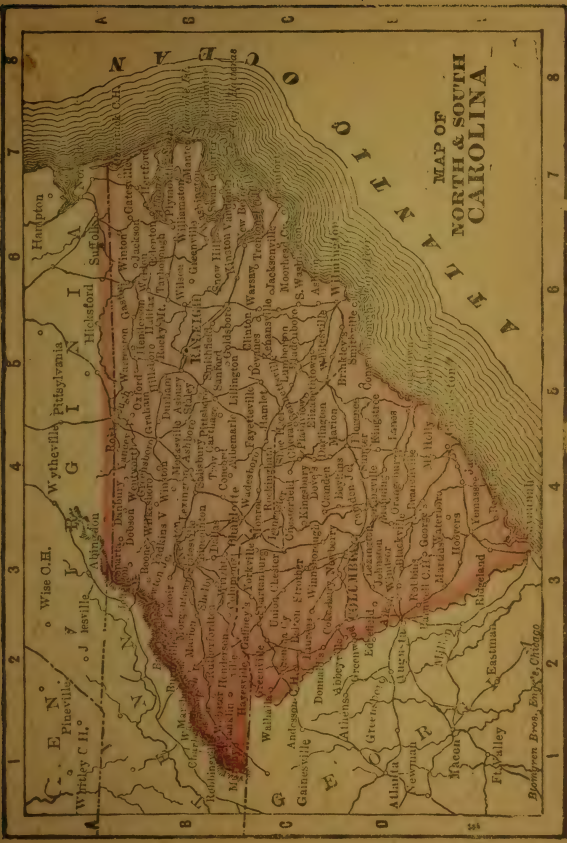
NORTH CAROLINA.

One of the 13 original states. Called "Old North State," "Fur State," and "State of Turpentine." Discovered by Lord Raleigh, 1584. Settled by English, 1650. State seceded May 21, 1861. Forts, etc., seized by state troops. Soast section scene of sharp fighting during civil war. State re-entered Union June, 1868. Number counties, 96, miles of railroad, 3,590. All elections Tuesday after first Monday in Nov. Number senators 50, representatives 120, sessions biennial, in odd-numbered years, meeting Wednesday after first Monday in Jan., hold 60 days. Terms of senators and representatives 2 years each. No. electoral votes 11, No. congressmen 9. Convicts excluded from voting. Public school system adopted 1840, at present over 2,000 public schools in operation; school age 6-21; separate schools for whites and blacks. Legal interest rate 6 per cent, by contract 8, usury forfeits interest. Rate of tax less than 50c on \$100. Population, census of 1900—1,893,810. Number of slaves in 1860 331,059. Greatest length E. and W. 453 miles. greatest width, 185 miles, area, 52,674 sq. miles, or 33,711,360 acres, less area water surface. Coast line 423 miles with many harbors. Much forest yet remains. Swamps extensive, most noted of them, the Great Dismal, north of Albemarle sound, contains 148,000 acres. Small streams abundant, water powers numerous: corn best crop tobacco largest product, other staples are orchard products, sweet potatoes, rice, wheat, oats, peanuts, cotton, hay and vegetables in the order named. North Carolina ranks first in tar and turpentine, second in copper, third in peanuts and tobacco, and fourth in rice. Has rich deposits of gold and the baser minerals. Stone, slate, coal, marble, mica. Excellent fisheries. Natural resources but slightly developed. Ample opportunities for homes, enterprise and capital. Cleared land averages \$10 and woodland \$5 per acre, and much of excellent quality in the market below this average. Stock thrives. Scenery varied, picturesque and grand. Wheat harvested June. Corn ripe Sept. Climate is varied, warm and moist in low sections; cool and dry in mountains, with all intermediate conditions. Average winter temperature, 49 deg., summer, 78 to 79 deg. Frosts light and seldom come till the end of fall. Rainfall, including some snow in mountains. 45 in. Health good. Chief Cities of N. Carolina, Wilmington, Raleigh (capital), Asheville, Winston, Fayetteville. New Berne, Charlotte contains assay office. Industries—Agriculture principal occupation. Fishing, manufacture of turpentine and lumber, mining, etc. Number of different industries, 3,800. Number boats engaged in fisheries, about 3,000. Copper mined 1,640,000 lbs,

Salaries of State Officers.

Governor \$3,000, Secretary of State \$2,000, Treasurer \$3,000, Auditor \$1,500, Attorney General \$2,000, Superintendent of Public Instruction \$1,500. Adjutant General \$600, Commissioner of Agriculture \$1,200. State Librarian \$750, Chief Justice \$2,500.

MAP OF NORTH & SOUTH CAROLINA



SOUTH CAROLINA.

One of the thirteen original states, "Palmetto state." Revolutionary record, brilliant. English seized the territory, but were thrashed at Cowpens and Eutaw Springs and penned up in Charleston. First railroad in United States using American locomotive, 1830. First state to secede, Nov., 1860. Sumter bombarded April 12-13, 1861. Ordinance of secession repealed Sept. 1865, and slavery abolished. Re-entered Union June 1868. No. counties 41. miles railroad 2,688. State, congressional and presidential elections, Tuesday after first Monday in Nov. State senators 41, representatives 124, sessions annual, meeting fourth Tuesday in Nov. Term of senators 4 years, representatives 2 years. No. electoral votes 9, No. congressmen 7. Insane, inmates of asylums, alms-houses and prisons, United States army and duelists excluded from voting. No. colleges 9, school age 6-16, school system fair. Legal int. 7%, by contract, any rate. Population, census of 1900—1,340,316. Number slaves in 1860, 402,406. Greatest length 280 miles, greatest width 210 miles, area 31,048 sq. miles, or 19,870,720 acres, coast line 212 miles. Principal river Savannah, navigable 130 miles. Magnificent water power, undeveloped. Soil from medium to very rich. Forest' extensive and valuable. Land cleared or uncleared, averages \$7 per acre. Rice and cotton, best crops. All other cereals as well as vegetables, fruits, grasses and fiber crops grow well. Phosphate beds enormous, gold, mica, marbles of all colors, building stones found in large quantities. Turpentine, tar, lumber and oysters largely produced. Stock thrives. Gold mines in Abbeville, Edgefield and Union counties, first mint deposits, \$3,500, in 1827. White and variegated marbles found in Spartanburg and Laurens counties. Climate—Temp. ranges 15 to 96 deg. F. Averages, summer 82 deg., winter 51. Average rainfall 48 inches, decreasing to the south. Health good. Epidemics rare and confined to seaports. Resort for consumptives. Changes slight and infrequent, frosts rare. Chief Cities, census of 1900—Charleston, 55,807; port of entry, seat of a Catholic/bishop; Columbia, ...; Greenville, ...; Spartanburg, ... United States customs districts at Beaufort, Charleston and Georgetown. Capital, Columbia. Principal Industries—Agriculture, mining, fishing, quarrying, lumbering, turpentine and tar making and phosphate digging.

SALARIES OF STATE OFFICERS.

Governor \$3,000, Lieutenant Governor \$1,000, Secretary of State \$2,100, Treasurer \$2,100, Comptroller General \$2,100, Attorney General \$2,100, Superintendent of Public Instruction \$2,100, Commissioner of Agriculture \$2,100, Adjutant and Inspector General \$1,500, Chief Justice \$4,000, Associate Justices \$3,500, Clerk of Supreme Court \$1,000, Senators and Representatives \$5 per day, mileage 10 cents; District Judge \$3,500, Collector of Internal Revenue \$3,250.

VIRGINIA.

One of the thirteen original states. Called the "Old Dominion," and "The Mother of Presidents." First English settlement in America, 1607. Active in Revolution and subsequent steps toward founding the Union, Virginia won the title of "First of the States." British burnt Norfolk 1779, and Richmond 1781. Yorktown surrendered Oct., 1781, practically vanquishing England. State seceded May 7, 1861, and capital of Confederacy moved to Richmond. Scene of gigantic energies of the war. Bull Run, the Wilderness, Cold Harbor, Fredericksburg, Port Republic and many other famous battles were fought on Virginia soil. Lee surrendered at Appomattox April 9, 1865, ending the war. State returned to the Union Jan. 26, 1870. Number counties, 118. Sessions of legislature biennial, in odd-numbered years, meeting first Wednesday in December; holds 90 days. Term of senators 90 days, representatives 2 years. Number electoral votes 12, congressmen 10. Lunatics, idiots, convicts, duelists, United States army and non-taxpayers of capitation tax excluded from voting. Number colleges 7, schools 4,502, school age 5-21, school system fair. Legal interest 6 per cent, by contract 3 per cent, usury forfeits all over 6 per cent. Miles of railroad, 3,676. Population, census of 1900, 1,854,184. Slaves, 1860, 490,865. Greatest length east and west, 445 miles, greatest width, 190 miles, area, 42,330 sq. miles, 27,091,200 acres. Coast line, 130 miles, tidal frontage, 1,556 miles. The state is rich in iron, gold, salt, coal, marble, slate, zinc, lead, stone, timber and other natural resources as yet little developed. Much good farming land is untilled. Cleared land averages \$10 and woodland \$6 to \$7 per acre. The opportunities for homes and enterprise are inviting. All cereals, tobacco, peanuts (state ranks first in this crop and second in tobacco), fruits, grapes, and vegetables are extensively raised. Stock thrives. Climate varies, is genial and healthful, cool in mountains and warm in lowlands in summer. Winters are seldom severe. Winter averages 44, summer 78 deg. Rainfall, including snow, averages 44 in., being heaviest on the coast. Chief Cities—Richmond (capital), 85,050; pop. of Norfolk, 46,624; Petersburg, ...; Hampton Roads, one of best harbors on coast. Seven ports of entry. Industries—Half population engaged in agriculture, balance in quarrying, ship-building, lumbering, the trades, iron working, meat packing, tanning.

Salaries of State Officers.

Governor \$5,000, Lieutenant Governor \$900, Secretary of State \$2,000, Treasurer \$2,000, Auditor \$3,000, Secretary Auditor \$2,000 Attorney General \$2,500, Superintendent of Public Instruction \$2,500, Adjutant General \$600, Commissioner of Agriculture \$1,500, Superintendent of Land Office \$1,300, President of Supreme Court \$3,250, four Judges of Supreme Court \$3,000, two District Judges \$3,500, Senators and Representatives \$540 per year.

WEST VIRGINIA.

Originally part of Virginia. Called "Pan Handle State." History up to 1861 same as that of Virginia. Refused to secede Apr. 22, 1861. F. H. Pierrepont elected governor June 20, 1861. Admitted as state June 20, 1863, and Wheeling made the capital. Capital changed to Charleston 1870. Moved again to Wheeling 1875, and to Charleston again in 1884. Union soldiers furnished 32,068. State advanced rapidly in wealth. Number counties 55. Miles railroad 2,143. Governor and state officers elected quadrennially, and legislature every two years on second Tuesday in Oct.; number senators 26, representatives 71. Sessions biennial in odd-numbered years, holding 45 days. Terms of senators 4 years, representatives 2 years. Number electoral votes 6, congressmen 4. Insane, paupers and convicts not voting. Flourishing free school system, school age 6-21. Legal interest 6 per cent, by contract 6, usury forfeits excess of interest. Population, census of 1900, 858,800. Number of slaves in 1860, 18,371. Topography, Area, Soil, Products, Etc.—Length N. and S. 241 miles, greatest width 158 miles, area 24,404 sq. miles. 16,682,560 acres. Surface mountainous with fertile valleys, the Alleghenys principal range. Some high peaks. Scenery fine and much visited by tourists. Western part hilly but gradually descends from 2,500 feet above the sea toward the Ohio river, where the elevation is 800 to 900 feet. Much of the state is virgin forest densely clothed with oak, walnut, poplar, ash and other timber trees. Mineral springs abound. The soil, where not mountainous, is excellent. Mineral wealth, including coal, oil, iron, salt is prodigal. Staple products include the minerals named, sheep, hogs, tobacco, wheat, corn, dairy products, fruit, wine, lumber. Petroleum extensively produced. The state ranks fifth in salt and coal, seventh in buckwheat, iron and steel. Cleared land averages \$22.50. Climate moderate, average temperature, winter 30 deg., summer 70 deg. Elevation reduces heat which in the valleys averages 76 to 78 deg. Average rainfall 42 to 45 inches. Health is excellent. Chief Cities, Census of 1900—Wheeling, 38,878; Charleston, capital, ... Parkersburg, . . . ; Martinsburg, ... Chief Industries—Sixty per cent of laborers engaged in agriculture, balance in mining, iron making, lumbering, manufacturing, etc.

SALARIES OF STATE OFFICERS.

Governor \$2,700, Secretary of State \$1,000 and fees. Treasurer \$1,400, Auditor \$2,000 and fees, Superintendent of Free Schools \$1,500, Attorney General \$1,000, Presiding Judge of Supreme Court \$2,250, Associate Judges \$2,250, Senators and Representatives \$4 per day, mileage 10 cents; District Judge \$3,500, two Collectors of Internal Revenue \$2,875.

MAP OF VIRGINIA & WEST VIRGINIA



ALASKA.

Discovered by Vitus Behring 1741, and became Russian territory by right of discovery. Purchased by the United States for \$7,200,000, 1867, as a deed of gratitude to Russia for her course in civil war. Has paid 5 per cent on investment ever since, and promises to become the source of enormous mineral, fur, agricultural and timber wealth. Governor appointed by the president of the United States.

Pop.—Census of 1900—63,441; Indians, estimated: Innuits 18,000, Aleutian 2,200, Ninneh 4,000, Thlinket 7,000, Hyda 800.

Extreme length north and south 1,200 miles, width 800 miles, area (estimated) 514,740 sq. miles. Yukon, chief river, 80 miles wide at mouth, navigable 840 miles, length about 1,300 miles; coast line 5,000 miles. Fertile land. Good oats, barley and root crops are raised without difficulty. Rich grass land in the valley of Yukon. Timber abundant. Yellow cedar best, being of great value for boat-building. Berries plentiful. Fine quality of white marble is on Lynn Channel. Coal, amber and lignite on Aleutian Islands, the best coal being on Cook's Inlet. Gold, silver, copper, cinnabar and iron are found: sulphur abundant. Noted for fur-bearing animals, the chief of which are beaver, ermine, fox, marten, otter, squirrel and wolf. The main revenue is the fur seal, taking of which is regulated by law. The walrus is of value in furnishing ivory and oil. Whales, cod, herring and halibut and salmon are abundant.

Climate—Pacific coast modified by Pacific Gulf Stream and long summer days. Temperature at Sitka averages, winter about that of Washington, D. C. Rainfall copious and foggy weather common on coasts and islands. Sitka one of the rainiest places in the world outside the tropics; annual precipitation 65 to 90 inches; rainy days 200 to 285 in year.

Chief Cities—Sitka, seat of Bishop of Greek church, and Fort St Nicholas, Cook's Inlet, Fort St. Michael, Norton's Sound, and a number of other mining settlements. Other harbors at Port Clarence, Michaeloski and Captain's Harbor.

Industries—Fishing, canning, trapping and mining.

SALARIES OF TERRITORIAL OFFICERS.

Governor	\$3,000
District Judge	3,000
Clerk of District Court and ex-officio Secretary and Treasurer	2,500
District Attorney	2,500
Marshal and Surveyor General	2,500
Collector of Customs	\$2,500 and fees
Three Deputy Collectors	1,500
One Deputy Collector	1,200
Two Inspectors, per day	3



MAP OF
ALASKA

100 200 Miles
Blomgren Bros., Engrs, Chicago.

ALABAMA.

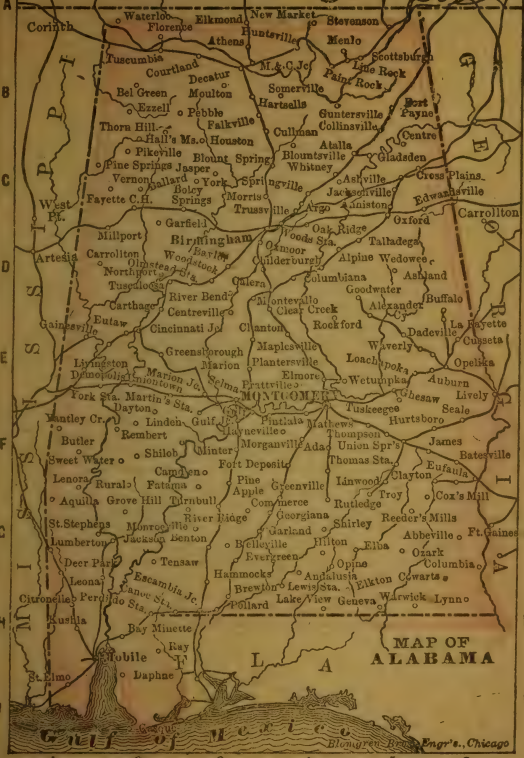
Name Indian, means "We rest here." Mobile founded by French 1702. Admitted to Union Dec. 14, 1819. Seceded Jan. 11, 1861. Montgomery made capital of Confederacy Feb. 4, 1861. Subsequently removed to Richmond, Va. State re-entered Union July 14. Number counties 66, miles of railroad 3,846. State elections biennial first Monday in Aug., number senators 33, representatives 100, sessions of legislature biennial in even-numbered years, meetings Tuesday after second Monday in Nov., and holding 50 days, term of senators 4 years, of representatives 2 years. Number of electoral votes 11, congressmen 9. Indians, idiots, convicts of crime excluded from voting. Number colleges 4, school age 7-21, schools good. Legal interest 8 per cent, usury forfeits entire interest. POPULATION, census of 1900, 1,828,697. Number of slaves in 1860, 435,080. Length N. and S. 330 miles, width averages 154 miles, area 52,250 sq. miles, 32,985,600 acres. Surface at N. E. rugged, extending into Allegheny mountains, gradually descends, forming rolling prairies at center of state and flat low stretches at the south. Sea coast 68 miles. Mobile bay best harbor on the gulf, 1,600 miles of navigable waterways. Has fair soil and is enormously rich in coal, iron, lime and sandstone, timber and various minerals. Middle section soil fertile and varied. Coast region sandy, but by proper cultivation prolific. Vegetable farming near Mobile very successful. Cotton, mules, iron, coal, sugar, rice, tobacco, hay, oats, corn, staple products. Fruits are a good crop. Much forest remains. Cleared land averages \$7, and woodland \$4 per acre. State ranks fourth in cotton, fifth in mules and molasses, sixth in iron ore and sugar, seventh in rice. CLIMATE.—Temperature mild, cold at north, warm at south, average winter 47 deg., summer 81 deg., July hottest month, range of thermometer 20 to 95 deg., sometimes for a day reaching 102 deg. Rain-fall 50 inches. Snow or ice very rare. Trees bloom in Feb.

CHIEF CITIES, census of 1900.—Mobile, 38,464; Birmingham, 38,415; Montgomery (the capital), 30,346; Selma, 8,713; Huntsville, 8,068. LEADING INDUSTRIES.—Agriculture and kindred pursuits, mining, iron making, lumbering, etc. Number industries 2,070.

Salaries of State Officers.

Governor.....	\$3,000
Secretary of State.....	1,800
Treasurer.....	2,150
Auditor.....	1,800
Attorney General.....	1,500
Superintendent of Public Instruction.....	2,250
Librarian.....	1,500
Three Railroad Commissioners.....	\$2,000 to 3,500
Chief Justice.....	3,000
Two Associate Justices.....	3,000

T E N N E S S E E



MAP OF ALABAMA

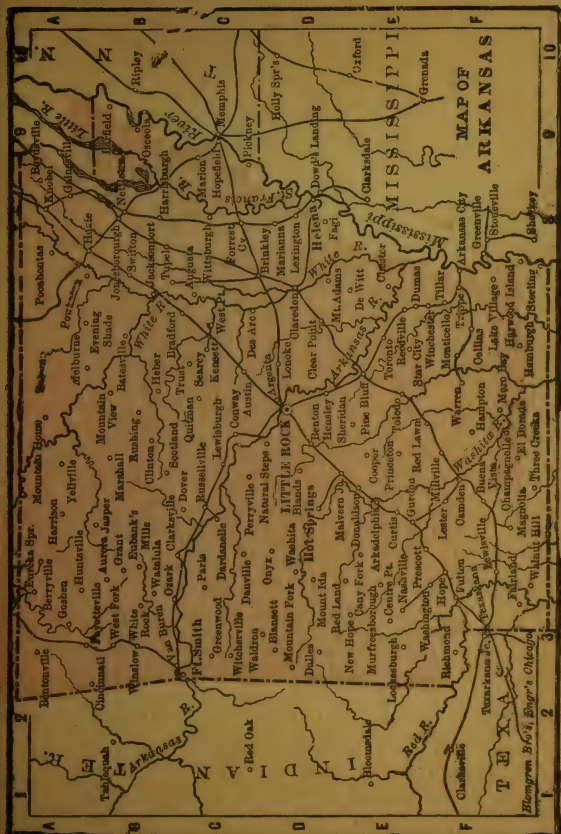
Gulf of Mexico Blount & Co. Eng'rs., Chicago

ARKANSAS.

"Bear State." Settled 1685. Arkansas territory organized 1819. Admitted as a state June 15, 1836. Slavery acknowledged. Seceded May 6, 1861. Considerable fighting during the war, but no great battles. Re-entered Union 1868. Number counties 75. Miles railroad, 2,747. State elections biennial, in even-numbered years first Monday in Sept.; number senators, 32, representatives 100, sessions of legislature biennial, in odd-numbered years, meeting second Monday in Jan., holding 60 days, term of senators 4 years, representatives 2 years. Number of electoral votes 8, congressmen 6. Idiots, Indians, convicts not voting. Number colleges 5, school system progressive, school age 6-21. Legal interest rate 6 per cent, by contract 10 per cent, usury forfeits principal and interest. Population, census of 1900—1,311,564. Length N. and S. 240 miles, average breadth 212 miles, area 53,845 sq. miles, 44,460,800 acres. The scenery varied and charming. Hot Springs (temp. 140 deg.) great natural wonder and famous for medicinal properties. Soil varies, but greater portion exceptionally rich and suited to all crops, especially fruits, berries and gardening. State especially favorable to agriculture. Magnificently timbered. Pine, oak, cypress, cedar, hickory, waln., linn. locust chief growth. Cleared land averages \$10 and woodland \$3 per acre. Coal exists on the Ash river, iron in the Ozarks, salt near Ouachita. Dillstone near Hot Springs, kaolin in Pulaski county. Staple products, corn, wheat, cotton, tobacco, oats, sweet potatoes, mules, tar, turpentine, lumber, etc. Climate—Genial. Temp. ranges 15 deg. to 95 deg., on rare occasions going to 100 deg. Averages winter, 45 deg.; summer 80 deg. Rainfall 44 inches, heaviest in S. E., lightest in N. W. Health unsurpassed, especially in N. W. Chief Cities, census of 1900—Little Rock, the capital, 38,307; Helena, 5,550; Fort Smith, 11,587; Hot Springs, 9,973; Pine Bluff, 11,496. Industries, 2,100 in number. Chiefly agricultural.

SALARIES OF STATE OFFICERS.

Governor.....	\$3,000
Secretary of State.....	1,800
Treasurer.....	2,250
Auditor.....	2,250
Attorney General.....	1,500
Superintendent of Public Inst.....	1,600
Land Commissioner.....	1,800
Chief Justice.....	3,000
Two associate Justices.....	3,000
Senators and Representatives.....	\$6 a day.
Two District Judges.....	3,500
District Attorney.....	\$300 and fees.
Two Assistant District Attorneys.....	\$1,200, 1,000



MAP OF
ARKANSAS

MISSISSIPPI

Blomgren Bros, Engrs Chicago

ARIZONA TERRITORY.

Explored 1526. Mineral wealth found, no important settlements effected because of hostile natives. Organized as territory, Feb. 24, 1863. Number counties 11. Miles railroad 1,320. All elections Tuesday after first Monday in Nov; number senators, 12; representatives, 24; sessions of legislature biennial, in even-numbered years, meeting first Monday in Jan., holds 60 days; terms of senators and representatives, 2 years each. School age, 6-21 years. Legal interest rate, 10 per cent., by contract, any rate; no penalty for usury. School endowment in lands reserved very large.

Population. census 1900, 122,931. Extreme length north and south, 378 miles, width, 339 miles, area, 113,929 sq. miles, 72,914,560 acres. Volcanic peaks reach an altitude of 10,500 feet. Southern portion a plain, dipping occasionally below sea level, and rising only to a very moderate elevation (200 to 600 feet usually), mountains numerous, highest point San Francisco, 11,056 feet. Colorado river navigable 620 miles. Flows between perpendicular walls cut in solid rock in places 7,000 feet high. Agriculture possible only in the valleys or where irrigation is practicable. Soil in valleys and bottoms very rich and prolific. Wheat, barley, potatoes, hay, corn, onions are staple field crops, corn follows wheat or barley, giving two crops yearly. Oranges and all semi-tropical fruits do well where water is obtainable. Cattle raising extremely profitable. Desert tracts of considerable area are found. Timber grows on the mountains, foot-hills and along the streams. The varieties include pine and cedar on mountains, cotton-wood, walnut and cherry on streams. Size of trees fair and quantity large. Abundant mineral wealth exists, which can be developed with profit, owing to completion of railways. Nearly all mountain ranges contain gold, silver, copper and lead. Superior quality of lime found near Preston and Tucson, beds of gypsum in San Pedro valley, remarkable deposits of pure transparent salt near Callville. Territory ranks second in production of silver.

Climate exceptionally healthful, and generally mild, except in mountains, temperature averages 38 deg. winter, 73 summer, much warmer at south, the thermometer reaching occasionally 115, and rarely falling below 35 deg. in winter. In central portion heat seldom exceeds 88 deg. to 90 deg., snow in mountains, but melts soon. Rainfall on Gila 6 inches, in foot-hills 28 inches. Heaviest in July and August.

CHIEF CITIES.—Census of 1900: Tucson, pop. 7,531; Prescott, the capital, pop. 3,559. Phoenix, 5,544.

LEADING INDUSTRIES.—Mining, grazing, agriculture, lumbering, smelting, etc.



CALIFORNIA.

"Golden State." First settled at San Diego 1763. Gold discovered 1848. Rush of immigration set in 1849. State constitution, without the preliminary of a territorial organization, framed Sept. 1849. Admitted as a state Sept. 9, 1850. Number counties 57.* Miles railroad 5,274. Governor and state officers elected quadrennially and legislature every two years; number senators 40, representatives 80, sessions of legislature biennial in odd-numbered years, meeting 1st Monday after Jan. 1, holds 60 days; term of senators 4, representatives 2 years. Number electoral votes 9, congressmen 7.

Idiots, Indians, convicts and Chinese excluded from voting. School system very fair; school age 5-17. Legal interest 7 per cent, by contract any rate. Population, according to census of 1890, 1,208,130. Extreme length N. and S. 725 miles, width 330 miles, area 158,360 sq. miles, 91,350,500 acres. Coast line over 800 miles. San Francisco Bay, 40 miles long 9 miles wide, magnificent harbor. Yosemite in the Sierras, one of the greatest natural wonders of the world and the greatest marvel of the state, where scenery is always grand. Mt. Whitney 15,000, highest peak. Very rich agriculturally and in minerals. Soil warm, genial and rich. Two crops may be raised in season. Irrigation necessary in parts and almost always desirable. Wheat most valuable crop, all cereals, root crops and grasses do well, corn, barley, grapes, fruit, nuts, silk, hops and oats staples. Mineral deposits include gold, silver, iron, copper, mercury, coal, stones, salt, soda, etc. Ranks high as a fruit-growing state, fruits of temperate climates, sub-tropical fruits and nuts, grapes N. to 41 deg., olives, etc., grow to great perfection. Fine sheep raising country. Ranks first in barley, grape culture, sheep, gold and quicksilver, third in hops, fifth in wheat and salt. Noble forests of redwood and other valuable growths. Land runs from \$1.25 to several hundred dollars per acre. Improved land averages \$30, unimproved \$7.50 per acre. It is the paradise of the small farmer. Plenty of room for men with a little something to begin on.

Climate varies with elevation and latitude. Mild and pleasant on coast. Average temperature at San Francisco in summer 62 deg., winter 50 deg. Warmer in interior, reaching at times 100 deg. Rainfall variable, from 7 to 50 inches at San Francisco. Average at S. 10 inches. Melting snow from mountains replaces rainfall. Frosts rare.

Chief Cities, census of 1900--San Francisco, pop. 342,782; port of entry, regular line of steamers to Australia, Panama, Mexico, China and Japan; Sacramento, capital, 29,282; Oakland, 66,960; San Jose, 21,500; Stockton, 17,506; Los Angeles, 102,479; U. S. navy yard at San Pueblo Bay; Fresno, 12,470; Alameda, 16,464; Berkeley, 13,214; San Diego, 17,700.

Leading Industries--Agriculture, stock raising, fruit culture, mining, lumbering, etc.

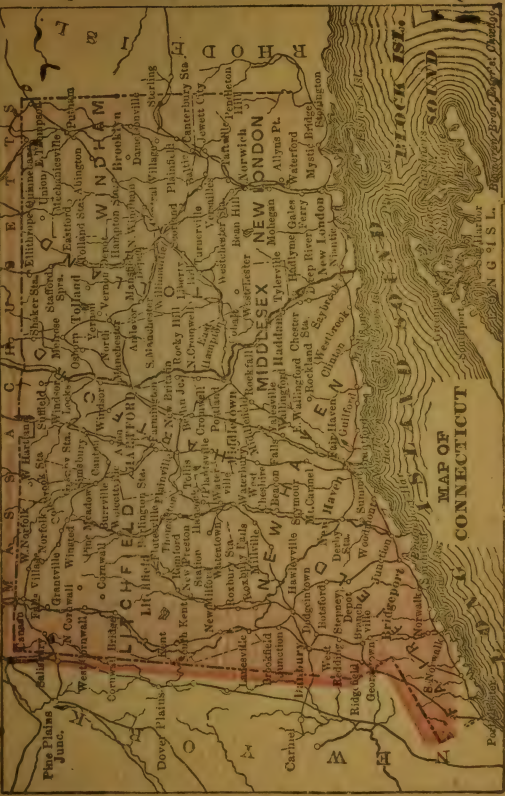


CONNECTICUT.

"Wooden Nutmeg State." One of the original 13 states explored by the Dutch settlers of Manhattan Island, 1615, by whom settlement was made, 1633, at Hartford. The state furnished a very large quota of men to the Revolutionary armies. Yale College founded 1701. Union soldiers furnished 55,864. Number counties 8. Miles railroad 1,009. State elections yearly on same date as presidential election. Elects 24 senators, 252 representatives, 4 congressmen and 6 presidential electors. State senators hold 2 and representatives 1 year. Legislature meets yearly on Wednesday after first Monday in Jan. Convicts and persons unable to read not permitted to vote. School system superior, includes 3 colleges with 160,000 books in libraries. School age 4-16 years. Legal interest 6 per cent. No penalty for usury. Population, according to census of 1900, 908,355. Area 4,990 sq. miles, average length 86 miles, average breadth 55 miles; sea-coast 110 miles. Surface less rugged than the other New England states. Mountain range terminates in this state in a series of hills. The coast is indented by numerous bays and harbors. Soil, except in valley, light and stony. Corn, oats, hay, wheat, tobacco and vegetables are the staple crops. Cleared land averages \$40 and wood land \$30 per acre. No valuable timber remains. Stone extensively quarried. Valuable iron mines exist. Climate moderate and healthy; average temperature, summer 72 deg., winter 28 deg. Occasionally the thermometer sinks below zero, considerable snow falls, summers warm, rain fall, including snow, about 47 inches. Chief Industries—Manufacture of hardware, clocks, silks, cotton, rubber, carpets, woollens, arms, sewing machines and attachments, dairying, quarrying, agriculture, etc.; total number of industries 4,488. Principal Cities, census of 1890—Hartford, capital and noted for banking and insurance business, pop. 79,850; New Haven, "City of Elms," seat of Yale college, 108,027; Bridgeport, noted for manufacture of fire arms and sewing machines, 70,996; Waterbury, important manufacturing city, 45,859; Danbury, 16,537; Meriden, 24,296; Middletown, 9,589; New Britain, 25,998; New London, 17,748; Norwich, 17,251; Stamford, 15,997. Fairfield, Middletown, New Haven, New London and Stonington are ports of entry.

SALARIES OF STATE OFFICERS.

Governor	\$4,000
Lieutenant Governor.....	500
Secretary of State.....	1,500
Treasurer.....	1,500
Comptroller.....	1,500
Secretary State Board of Education.....	3,000
Adjutant General.....	1,200
Insurance Commissioner.....	3,500
Three Railroad Commissioners.....	3,000
Chief Justice.....	4,500
Four Associate Justices.....	4,000



MAP OF
CONNECTICUT

LONG ISLAND SOUND

Pine Plains
Junc.

Post

COLORADO.

"Centennial State." John C. Fremont, "The Pathfinder," crossed Rockies 1842-44. First American settlement near Denver, 1859, Mining begun. Organized as territory Feb. 1861. Indian troubles 1863-4. Union soldiers furnished 4,903. Admitted as a state Aug. 1, 1876. Number counties 56. No railroad in 1870. Mileage 1899. 4,572. All elections Tuesday after first Monday in Nov., number senators 36 representatives 65, sessions biennial in odd-numbered years, meeting first Monday in Jan., limit of session 40 days, term of senators 4 years, of representatives 2 years. Number electoral votes 4 congressmen 2. Convicts excluded from voting. Number colleges 3, school system fair endowment, school age 6-21 years. Legal interest 10 per cent., by contract any rate.

POPULATION—census of 1900—439,700.

Length E. and W. 380 miles, width 270 miles, area 103,925 sq. miles, 66,460,800 acres, three-fifths unsurveyed. Rocky mountains traverse state N. and S. with 3 ranges having many peaks more than 13,000 feet high. Fine grazing grounds. Scenery grand beyond words. Much rich soil along streams and wherever irrigation is possible. Cereals do very well. Corn, wheat, oats, hay, staple crops. Cattle, sheep and hog raising safe and profitable. Dairying pays, as does gardening. Timber resources moderate. Mountains fairly clothed with pine and other trees. Mineral wealth inexhaustible. State ranks first in silver, fourth in gold. Iron, soda, coal, copper, lead, stone, mica, etc., exist in large deposits.

CLIMATE.—Dry and range of temperature comparatively small. Winters mild, summers cool. Average temperature winter 31 deg., summer 73 deg. Rainfall, mainly in May, June and July, average 18 inches. On mountains winters severe, accompanied by heavy snowfall; violent winds common; fogs unknown. Health unsurpassed.

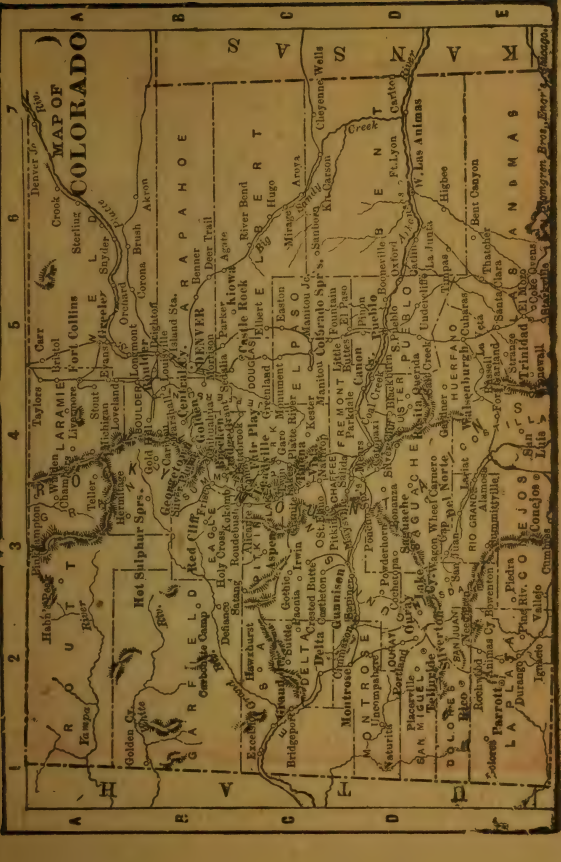
CHIEF CITIES.—Census of 1900—Denver, capital and metropolis, and contains assay office; pop. 133,859 Leadville, 12,455 Colorado Springs, 21,085 State University at Boulder; Agricultural College at Fort Collins; School of Mines at Golden City. Pueblo, 28,157; Cripple Creek, 10,147.

LEADING INDUSTRIES.—Mining, smelting ores, agriculture, grazing, etc.

Salaries of State Officers.

Governor	\$5,000
Lieutenant Governor.....	1,000
Secretary of State.....	3,000
Treasurer.....	3,000
Auditor.....	2,500
Attorney General.....	2,000
Chief Justice	5,000

MAP OF COLORADO



Denver Jo. pte.

Crook

Sterling

Fort Collins

W. E. L. Snyder

Orchard

Corona

Brush

Akron

Longmont

Deer Trail

Agate

Castle Rock

Elbert

Hugo

Mirage

Arroyo

San Antonio

Cheyenne Wells

Fl. Lyon

Carlton

W. Las Animas

Higbee

Bent Canyon

Thatcher

Santa Clara

El Moro

Coke Ovens

Shackelford

Angren, Bros., Engrs., Chicago.

Taylor

Carr

Fort Collins

W. E. L. Snyder

Orchard

Corona

Brush

Akron

Longmont

Deer Trail

Agate

Castle Rock

Elbert

Hugo

Mirage

Arroyo

San Antonio

Cheyenne Wells

Fl. Lyon

Carlton

W. Las Animas

Higbee

Bent Canyon

Thatcher

Santa Clara

El Moro

Coke Ovens

Shackelford

Angren, Bros., Engrs., Chicago.

Walden

Laramie

Britton

Fort Collins

W. E. L. Snyder

Orchard

Corona

Brush

Akron

Longmont

Deer Trail

Agate

Castle Rock

Elbert

Hugo

Mirage

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San Antonio

Cheyenne Wells

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Carlton

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Higbee

Bent Canyon

Thatcher

Santa Clara

El Moro

Coke Ovens

Shackelford

Angren, Bros., Engrs., Chicago.

Golden

Hot Sulphur

Red Cliff

Central

Denver

Deer Trail

Agate

Castle Rock

Elbert

Hugo

Mirage

Arroyo

San Antonio

Cheyenne Wells

Fl. Lyon

Carlton

W. Las Animas

Higbee

Bent Canyon

Thatcher

Santa Clara

El Moro

Coke Ovens

Shackelford

Angren, Bros., Engrs., Chicago.

Golden

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W. Las Animas

Higbee

Bent Canyon

Thatcher

Santa Clara

El Moro

Coke Ovens

Shackelford

Angren, Bros., Engrs., Chicago.

NORTH AND SOUTH DAKOTA

Named for Dakota Indians. First settled at Pembina 1812. Dakota was organized as territory March, 1861, and admitted to the Union as North and South Dakota on Nov. 3, 1889. First legislature met 1862, at Yankton. Immigration became active 1866. Railroad building active and systems mammoth in their scale. Number counties North Dakota, 39; South Dakota, 53. Number senators and representatives, North Dakota, 93; South Dakota, 132; sessions biennial. Term of senators 4 years, and of representatives 2 years. Legal interest rate 7 per cent. by contract 12 per cent. usury forfeits excess. Miles railroad in North Dakota, 2,584; in South Dakota, 2,802.

POPULATION. census of 1900, N. D., 319,146; S. D., 401,570. Areas, N. D., 70,894 sq. miles or 45,362,560 acres; S. D., 77,580 sq. miles or 49,661,200 acres. Indian reservation principally west of Missouri river, 42,000,000 acres, one-seventh good farming land. Surface high, level plain, 950 to 2,600 feet above the sea, traversed by ranges of lofty hills, which at the S. W. reach an elevation of 7,000 feet in the Black Hills. The Missouri river traverses the territory diagonally from N. W. to S. E., and is navigable. Lakes are numerous, especially in the north and east. Devil's Lake is semi-salt. Other large lakes. Soil is very rich and peculiarly suited to wheat, which is the staple crop. Corn, oats, grasses and potatoes do well. Fruit is not a good crop. Cattle, and especially sheep-raising, favored and growing industries. Timber scarce, except along the streams and some of the hills. Gold and silver extensively mined. Black Hills very rich in precious minerals. Ranks fourth in gold output. Good coal west of the Missouri. Not much developed as yet. Deposits of tin said to be of great value exist. Price of land \$1.25 to \$20 per acre (later improved).

CLIMATE.—Temperature ranges from 32 deg. below zero to 100 deg. above. Averages, winter 4 to 20 deg., summer 65 to 75 deg. Winters at north severe, with heavy snow. Moderate at the south. Air clear, dry and free from malaria. Cold not so penetrating as in moister climates. Springs late and summers of medium length. Rainfall 19 in., chiefly in spring and summer.

CHIEF CITIES OF NORTH DAKOTA.—Fargo, northern metropolis. Bismarck, Grand Forks.

CHIEF CITIES OF SOUTH DAKOTA.—Yankton, Pierre, Deadwood.

INDUSTRIES.—Almost entire laboring population engaged in agriculture and mining.

SALARIES OF STATE OFFICERS.

Governor N. Dakota, \$3,000; S. Dakota, 2,500; Lieutenant Governors, \$1,000; Secretaries of State, \$2,000; Treasurers, \$2,000; Auditors, \$2,000; Superintendents of Public Instruction, \$2,000; Chief Justices, \$3,000; Senators and Representatives, \$5 a day, mileage 20 cents.

MAP OF NORTH DAKOTA.



MAP OF SOUTH DAKOTA.

Blomgren Bros. Engr's., Chicago

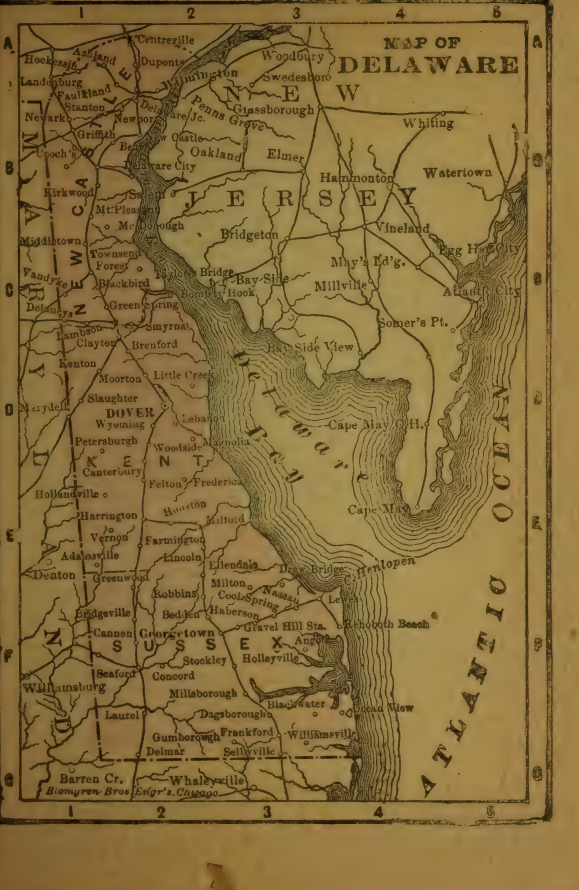
DELAWARE.

One of the thirteen original states. "The Diamond State." Settled by Swedes 1658, who bought from Indians. Took vigorous part in the revolution. Was a slave state. Slaves 1860, 2,000. Union soldiers furnished 12,284, the biggest percentage of any state. Contains three counties. Miles of railroad 317. All elections Tuesday after first Monday in November, number senators 17, representatives 35, legislature meets in odd-numbered years first Tuesday in January, holds 21 days, term of senators 4 years, of representatives 2 years, number electoral votes 3, number congressmen 1, idiots, insane, paupers and criminals excluded from voting. Colleges at Newark and Wilmington, school age 6-21, schools fair, legal interest rate 6, usury forfeits the principal. Population census of 1900, 184,735. Length north and south nearly 100 miles, width 10 miles at north, 36 at south. Area 2,050 square miles, or 1,248,000 acres. Available area large. Northern portion rolling, but free from large hills. Scenery beautiful. Southern portion level and sandy, with frequent cypress marshes. Coast low and swampy with lagoons separated from sea by sand-beaches. Streams flow into Chesapeake and Delaware bays and are small. Tide reaches to Wilmington. The soil is good and the state of cultivation superior. Cleared land averages \$45 per acre, and wood-land \$40. Staple crops, corn, wheat, peaches, berries, garden vegetables, sweet potatoes. Iron is found, but is no longer worked. Climate mild. Tempered by sea breezes. Average temperature, winter, 32 deg. to 38 deg.; summer, 72 deg. to 78 deg. Rainfall 48 to 50 inches. At north health excellent. Some malaria on the lowlands bordering the swamps at the south. CHIEF CITIES, census of 1900.—Wilmington, pop. 76,508. Dover, (cap.) 3,329, Newcastle 3,380. Breakwater protecting Delaware Bay at Cape Henlopen, greatest work of its kind in America, cost the United States \$2,127,400, and was over 40 years in course of construction. INDUSTRIES.—Agriculture and kindred pursuits, manufacture of flour, lumber, cotton, iron, steel, leather, etc., shipbuilding, fishing, canning and preserving. Total number different industries, 750.

SALARIES OF STATE OFFICERS.

Governor	\$2,000
Secretary of State	1,000
Treasurer	1,450
Auditor	700
Adjutant General	200
Attorney General	2,000
Superintendent of Public Instruction	1,500
State Librarian	450
Chief Justice	2,500
Chancellor	2,500
Three Associate Justices	2,200
Senators and Representatives	\$3 per day and mileage.

MAP OF
DELAWARE



FLORIDA.

Named for its flowers, "Peninsula State." "Pensacola taken from England by Gen. Jackson during the war of 1812. Entire province ceded to United States 1819. Organized as a territory 1822. Admitted as a state March 3, 1845. State seceded Jan. 10, 1861, re-entered Union July 4, 1868. Number counties 45, miles of railroad 3,182. All elections Tuesday after first Monday in Nov. Numbers senators 32, representatives 68. Sessions of legislature biennial, in odd-numbered years, meeting Tuesday after first Monday in January, holds 60 days. Term of senators 4, of representatives 2 years. Number electoral votes 4, congressmen 2. Idiots, insane, criminals, betters on elections and duelists excluded from voting. Schools fair, school age 4-21. Legal interest 8 per cent, by contract any rate. Population, census of 1900—528,542. Number of slaves in 1860, 61,745. Four-fifths of Florida is in the peninsula, which is about 350 miles N. and S. and 105 miles E. and W. Remainder is the narrow strip along the Gulf, 342 miles E. and W. and 10 to 50 miles N. and S. Area 58,580 sq. miles, 37,931,520 acres. Twenty-first state in size. State surrounded by sea except on north. Coast line over 1,200 miles. Good harbors rare, mostly on Gulf. The northern section is a limestone formation, affording a fair soil. In the middle section are found tracts of great richness. At the south the soil, when dry or reclaimed, is inexhaustible. Shores very low frequently not two feet above tide water. Coral growth at south continues. Surface dotted with lakes. The staple products are corn (most valuable crop), sugar, molasses, rice, cotton, oats, tobacco, vegetables of all kinds, peaches, oranges, and all tropical and semi-tropical fruits, cocoanuts, lumber, fish, oysters, etc. Poultry and stock raising are successful. Cleared land averages \$12, woodland \$3, swamp \$1, and school land \$1.25 per acre. Much forest remains. Timber, chiefly pine, of moderate size, free from undergrowth. Game abounds. Climate superb. No snow. Frosts rare at north, unknown at south. Temperature ranges 30 deg. to 100 deg., rarely above 90. Winter averages 59 deg., summer 81 deg. Breezes blow across from Gulf to Atlantic and vice versa, temper the heat and keep air dry and clear. Average rainfall 55 inches, chiefly in summer. CHIEF CITIES, census of 1900—Key West, good harbor and naval station, 17,114. Jacksonville, 28,429. St. Augustine, oldest town in United States, 4,272. Tallahassee, capital, 2,981. Pensacola, 17,747. PRINCIPAL INDUSTRIES. — Almost the entire laboring population is engaged in agriculture and fruit growing. Fishing for fish and oysters and lumbering largely followed. Railroads, 1890, 2,378 miles.

Salaries of State Officers.

Governor \$3,500, Lieutenant Governor \$500, Secretary of State \$2,000, Treasurer \$2,000, Comptroller \$2,000, Attorney General \$2,000, Superintendent of Public Instruction \$2,000, Adjutant General \$2,000, Land Commissioner \$1,200, Chief Justice \$3,500.

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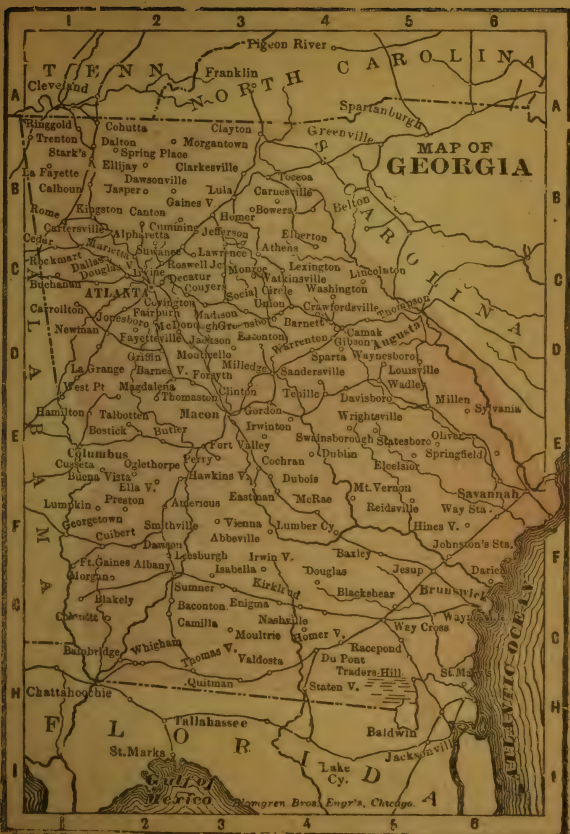


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GEORGIA.

One of the thirteen original states, named for King George II. of England, called the "Empire State of the South." Originally a part of South Carolina and claimed by Spain. Active in the Revolution, suffering badly from devastation by English. Severe wars with Creeks and Cherokees settled by treaties 1790 and 1791. State seceded January 19, 1861. Many hard fought battles during civil war, including Atlanta, etc. Re-entered Union 1870. Number counties 137, miles of railroad 5,403, state elections first Wednesday in October, number senators 44, representatives 175, sessions, biennial in even-numbered years, meeting first Wednesday in November, hold forty days. Terms of senators and representatives two years each. Number electoral votes 13, number congressmen 11. Idiots, insane, criminals and non-taxpayers excluded from voting. Number colleges 7, State University at Athens organized 1801, public schools excellent, school age 6-18. No state license law governing commercial travelers, but Atlanta, Athens, Augusta and Savannah exact a tax. Legal interest 7%, by contract 8%, usury forfeits excess of interest. Population, census of 1890—1,837,353. Greatest length N. and S. 321 miles, greatest width 255 miles, area 59,475 square miles or 38,064,000 acres, exclusive of water area. Surface diversified. At the north are the Blue Ridge, Etowah and other mountains. In the southeast is the Okefinokee swamp, 150 miles in circumference. Coast irregular and indented, shore line about 500 miles, three seaports. Mountain streams are rapid picturesque cataracts and immense basins. The chief falls are the Tallulah, in Habersham county, Toccoa, in the Tugalo, 180 feet high. Towaliga, in Monroe Co., and the Amicolah, which descend 400 feet in a quarter mile. Corn, wheat, oats, cotton, rice, sweet potatoes, tobacco, sugar and melons, chief agricultural staples. Fruit, both temperate and semi-tropical, thrives. Stock flourishes. Wool-growing important. Gold is extensively mined. Coal, iron, marble exist. Cleared land averages \$8 and woodland \$5.50 per acre. One-fourth area heavily timbered with yellow pine of great value for lumber, turpentine, etc. **CLIMATE.**—At the north mild and extremely healthy, hot in the lowlands. Range of temperature 30 deg. to 105 deg. Average, winter 40 deg., summer 38 deg. Rainfall averages 55 inches. **STATE POPULATION,** census of 1900, 2,216,331. **CHIEF CITIES,** census of 1900.—Savannah, pop. 54,244. Atlanta, capital, pop. 89,972; Augusta, 39,441. **PRINCIPAL INDUSTRIES.**—Three-fourths of population engaged in agriculture. Remainder in various pursuits. Manufacturing important. Raw materials becoming more abundant and cheap.

For HAWAII see Page 204.



IDAHO.

Gold discovered, 1880, in Oro Fino creek. Organized as territory March, 1863, and admitted to the Union July 3, 1890. Number counties 21. All elections Tuesday after first Monday in Nov., number senators, 21, representatives, 49, sessions of legislature biennial, in even-numbered years, meeting second Monday in Dec., holds 60 days, terms of senators and representatives, 2 years each. Electoral votes 3; 1 congressman. School age, 5-21 years. Legal interest rate 10 per cent., by contract 18 per cent., usury forfeits three times excess of interest; miles railroad, 1,106.

Population, 1900—161,772.

TOPOGRAPHY, AREA, SOIL, PRODUCTS. ETC.—Length, 140 to 490 miles, width 45 to 286 miles. Area, 84,800 sq. miles, 53,944,600 acres. Surface table land and mountains. About one-twelfth is arable and one-tenth more grazing land. One-third barren, but may be reclaimed by irrigation. Many lakes are found, as well as numerous water powers. Forests estimated at 9,000,000 acres. The soil, where water can be had, is fertile. Wheat, oats, rye, barley, potatoes and hay are good crops, and dairying and stock-raising profitable. Gold is found in quartz veins in Idaho, Boise and Alturas counties, silver in Owyhee county. Some of the mines very rich. Wood river district on southern slope of Salmon River mountains, at headwaters of Wood or Malad rivers, gives promise of valuable mining operations, chiefly placers. Coal in vicinity of Boise City. Territory ranks sixth in gold and silver.

Climate severe, with heavy snows in mountains, on plains less severe, but cold and bracing. In the valleys it is milder, with moderate snowfall. Summers cool and pleasant. Temperature averages 20 deg. in winter, 70. deg. in summer. Rainfall small in the Rocky and Bitter Root mountains, and very light at the N. and W.

CHIEF CITIES.—Boise City (capital), 5,957; Pocatello, 4,046; Wallace, 2,265.

LEADING INDUSTRIES.—Mining, grazing, agriculture, smelting and lumbering.

Salaries of State Officers.

Governor.....	\$3,000
Secretary.....	1,800
Treasurer.....	1,000
Auditor.....	1,800
Librarian.....	250
Chief Justice.....	3,000
Two Associate Justices.....	3,000
Senators and Representatives...\$4 per day and 20 cents mileage	
Two District Attorneys.....	\$250 and fees
Collector of Internal Revenue.....	2,250
Three Deputy Collectors.....	\$1,400 to 1,600
Assayer.....	2,000

MAP OF IDAHO



Blomgren Bros., Engrs Chicago.

ILLINOIS.

Name derived from Illini tribe of Indians, meaning Superior Men. Called "Prairie State" and "Sucker State." Ft. Dearborn (Chicago) massacre, 1812, by Pottawatomies. Admitted as state, 1818. Capital moved to Springfield, 1836. Soldiers in Mexican war, 5,000. Union soldiers, 259,092. Number counties, 102. All elections, Tuesday after first Monday in Nov.; number senators, 51; representatives, 152; sessions biennial, in odd-numbered years, meeting first Monday in Jan., term of senators, 4 years; representatives, 2 years. Number electoral votes, 24; congressmen, 22. Idiots and convicts excluded from voting. School system excellent; number colleges, 28; school age, 6-21. Legal interest, 6 per cent.; by contract, 8 per cent.; usury forfeits entire interest. Miles of railroad, 10,752. Population, census of 1900, 4,821,550. Extreme length N. and S. 386 miles; extreme width, 218 miles. Av. elevation, 482 ft., elevation at Cairo, 340 ft.; highest point, 1,140 ft. in northw. portion. Area, 56,000 sq. m., 36,256,000 acres; miles of navigable waterways, 4,100. Frontage on Lake Michigan, 110 miles. Among first agricultural states of Union. Staple crops, corn, wheat, oats, rye, barley, broomcorn, vegetables, hay, potatoes, etc. Fruits and grapes do well at south. Yield of all crops cultivated, large. Coal area, two-thirds state. First coal mined in America at Ottawa; quality moderately fair. Considerable forest of hardwoods at south on hills and in bottoms. Superior quality limestone on Fox and Desplaines rivers; lead, most important mineral; Galena in center of richest diggings in N. W. Rich salt wells in Saline and Gallatin counties, 75 gal. brine making 50 lbs. salt. State ranks first in corn, wheat, oats, meat packing, lumber traffic, malt and distilled liquors and miles railway; second in rye, coal, agricultural implements, soap and hogs; fourth in hay, potatoes, iron, steel, mules, milch cows and other cattle. Cleared land av. \$28, and woodland or raw prairie, \$18 per acre. Climate healthful as a rule; subject to sudden and violent changes at north. Temp. ranges from 30 deg. below zero to 101 deg. above. Av. temp. at Springfield, 30 deg. winter; 78 deg. summer. At Chicago, 25 deg. winter, 72 deg. summer. At Cairo, 38 deg. winter, 80 d. summer. Frost comes last of Sept. Vegetation begins in April. Rainfall 37 inches. CHIEF CITIES, census of 1900—Chicago, pop. 1,698,575; Peoria, 56,160; Quincy, 36,252; Springfield (capital), 34,159; Joliet, 29,353; Rockford, 31,051. Industries—Agriculture, mining, stock raising and manufacturing of all kinds.

Salaries of State Officers.

Governor \$6,000, Sec. of State \$3,500, Treas. \$3,500, Auditor \$3,500, Attorney General \$3,500, Chief Justice \$5,000, Senators and Representatives \$5 per day, mileage 10 cents and \$50

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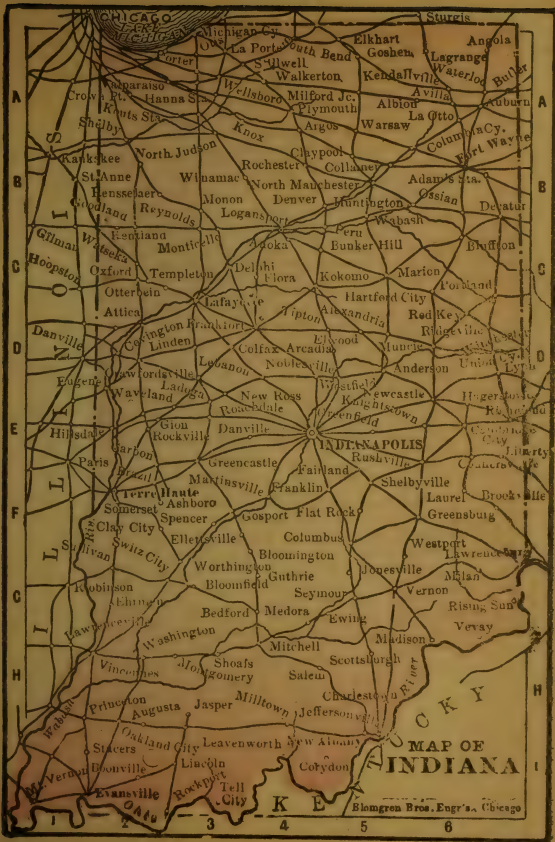


INDIANA.

"Hoosier State." Settled at Fort St. Vincents, now Vincennes, in 17:2, by French-Canadian voyagers. Admitted as a state Dec. 11, 1816. Sixth state admitted. Soldiers furnished in Mexican war 5,000. Union soldiers 196,363. Number counties, 92. All elections Tuesday after first Monday in Nov.: number senators, 50; representatives, 100; sessions of legislature biennial, in odd-numbered years, meet Thursday after first Monday, holds 60 days: terms of senators 4 years, of representatives, 2; number electoral votes, 15; number congressmen, 13; number voters, 498,437. Fraudulent voters and bribers excluded from voting. Number of colleges 15, State University at Bloomington; medical school at Indianapolis, university at Notre Dame, flourishing common-school system; school age, 6-21. Legal interest rate 6 pct., by contract 8 pct., usury forfeits excess of interest. Miles of railroad, 6 383. Population: Census of 1900—2,516,462. Extreme length N. and S. 275 miles, width averages 150 miles, area 36,350 sq. miles, 23,264,000 acres. Surface sometimes hilly. No mountains. Hills 200 to 400 feet above the surrounding country. Frontage on Lake Michigan 43 miles. River bottoms wide and unsurpassed in fertility, highlands when level, rich, black or sandy soil. All crops and fruits of the temperate zone do well both in yield and quality. State highly favored for agriculture and manufacturing. Ranks second in wheat, fourth in corn, hogs and agricultural implements, fifth in coal. Cattle, hogs, sheep, horses, etc., are most successfully raised. Corn, wheat, oats, staple crops. Timber still abundant at south, but in scattered tracts. Coal fields in southwestern portion of state over 7,000 sq. miles, on much of which are 3 workable veins. Kinds of coal, block, cannel and ordinary bituminous, cokes well, superior for gas. Building stones varied and of unsurpassed quality, including the famous Bedford stone. Supply unlimited. Land is cheap, cleared averaging \$18, and woodland \$14 per acre. In rich section to southwest cleared land \$15, woodland \$10 to \$12. Chances for making homes, comfort and advantages considered, not excelled elsewhere. Iron ore is found.

Climate changable in winter, but seldom severe; winds from north and west; summers moderately long, and sometimes hot; temperature averages, winter 34 deg., summer 78 deg. Trees blossom in March. Rainfall 40 inches. Health excellent. Malaria rapidly disappearing from bottoms before proper drainage.

CHIEF CITIES: Census of 1900—Indianapolis (capital) pop. 169,164; contains deaf and dumb, blind and insane asylums; Terre Haute, pop. 36,673; Evansville, 59,007; Fort Wayne, 45,115; Michigan City, lake port.; South Bend, 35,999. Industries, mining and manufacturing.



MAP OF
INDIANA

Blomgren Bros. Engr's, Chicago

INDIAN TERRITORY.

Set apart for peaceful tribes. Organized 1834, no territorial government. Government in hands of tribes. Also encloses Oklahoma Territory, which was opened to settlement by proclamation of President Harrison on April 22, 1889. Each tribe elects officers, legislatures and courts, and criminals are punished as in the states. No laws for collection of debts. All lands held in common, and any Indian may cultivate as much as he wants, but one-quarter mile must intervene between farms. Whites can hold land only by marrying an Indian. Miles of railroad, 1,200. School system excellent; pupils educated and supported by the tribes, half entire revenue being set aside for the purpose. Three colleges, 200 schools.

Pop. census of 1900, 391,960. Cherokees 29,599, Choctaws 14,397, Creeks 14,632, Chicasaws 7,182, Seminoles 2,561, Osages Cheyennes, Araphoes, Kiowas, Pawnees and Comanches, all together, 6808. Two-fifths of entire population can read. Extreme length east and west 470 miles, average length 320 miles, width 210 miles, area 69,991 miles, 44,154,240 acres. Surface vast rolling plain sloping eastward. Valleys timbered heavily with hard woods. South of Canadian river prairies very fertile, valleys rich and productive throughout territory, grass rich and heavy almost everywhere. Corn, cotton, rice, wheat, rye, potatoes are staples. Grazing interests large. Coal is found, but extent unknown. Fur-bearing animals numerous.

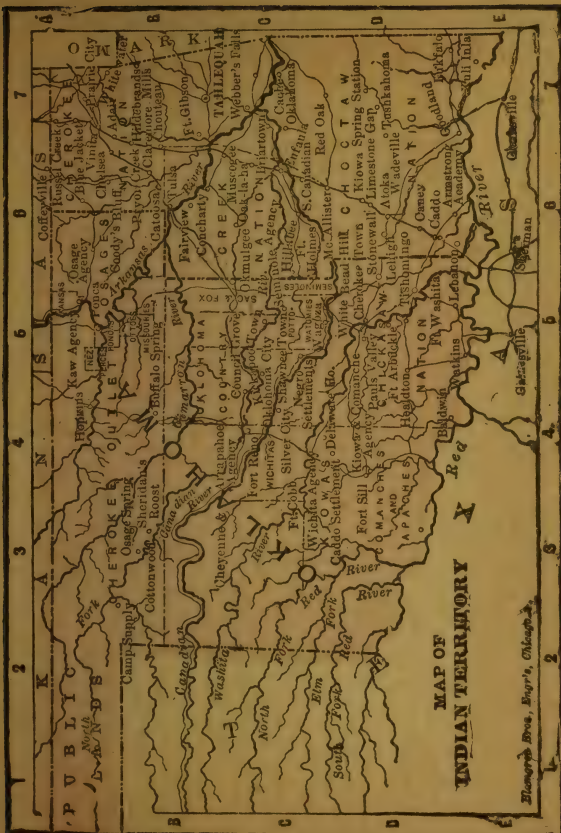
CLIMATE.—Mild in winter, warm in summer. Temperature averages 41 deg. winter, 80 deg. summer. Rainfall at east, 50 inches, center 36, far west 22. Health as good as anywhere in Union.

CHIEF CITIES.—Tahlequah, capital of Cherokees, Tishomingo, capital of Chicasaws; Tushkahoma, of Choctaws; Muscogee, of Creeks; Pawhuska, of Osages; Seminole Agency, of Seminoles; Pawnee Agency, of Pawnees; Kiowa and Comanche Agency, of Kiowas and Comanches.

LEADING INDUSTRIES.—Agriculture and grazing.

INDIAN AGENCIES.

ARAPHOE.		OSAGE.	
Agent.....	\$ 900	Agent.....	\$1,600
		Physician.....	1,200
CHEYENNE.		OTOE.	
Agent.....	2,200	Agent.....	1,500
Physician.....	1,200	Physician.....	1,000
KAW.		PAWNEE.	
Superintendent.....	1,600	Clerk.....	1,200
Physician.....	1,200	Physician.....	1,000
KIOWA AND COMANCHE.		PONCA.	
Agent.....	1,000	Superintendent.....	1,200
Physician.....	1,000	Clerk.....	720
OAKLAND.		QUAPAW.	
Supt.....	\$1,000	Agent.....	\$1,500
3 Teachers... 600		Physician....	1,200
		SAC AND FOX.	
		Agent.....	\$1,200
		2 Physicians.	1,000



MAP OF

INDIAN TERRITORY

Blanchard Bros., Eng'rs, Chicago, Ill.

IOWA.

"Hawkeye State." Settled first by Dubuque, 1788, a French Canadian, for whom that city is named. First settlers miners of lead. Active immigration began 1833. Iowa territory organized July 4, 1838. Admitted as state 1846. Union soldiers furnished 76,242. Number counties 99, miles of railroad 8,508. State elections annual, Tuesday after second Monday in October, excepting years of presidential elections, when all elections occur together. Number senators 50, representatives 100, sessions of legislature biennial, in even-numbered years, meeting second Monday in January. Terms of senators 4 years, of representatives 2 years. Number electoral votes 13, congressmen 11. Idiots, insane and criminals excluded from voting. Number colleges 19, school age 5-21. School system admirable, endowment liberal. Legal interest rate 6 per cent., by contract 10 per cent., usury forfeits 10 per cent. per year on amount. State has adopted prohibition.

Population, census of 1900, 2,231,853.

Extreme length E. and W. 208 miles, width 208 miles, area 56,025 sq. miles, 35,850,000 acres. Surface almost an unbroken prairie, without mountains and with very few low hills. Natural meadows everywhere, and water abundant. Many small lakes at north. Highest point Spirit Lake, 1,600 feet above the sea. Soil superior. Corn, wheat, oats, potatoes, hay, barley, sorghum, rye, staples. Apples unsurpassed in United States; pears, plums, cherries, grapes and berries are excellent crops. Cattle and other stock interests large and thrifty. Dairying attractive. Forest area small—scarcely equal to home requirements. Coal area fair. Other minerals unimportant. Manufacturing active. Improved land averages \$20; unimproved, including railroad and government domains, \$12.50. State ranks first in hogs, second in milch cows, oxen and other cattle, corn, hay and oats; third in horses; fifth in barley and miles of railway.

Climate subject to extremes. Winter severe, with sharp north and west winds; summers pleasant. Temperature averages, summer 72 deg., winter 23 deg.; ranges from 10 deg. below to 99 deg. above zero. Rainfall 42 inches. Wheat harvest in August.

CHIEF CITIES—Census of 1900—Des Moines, metropolis and capital, pop. 62,139; Dubuque, 36,297; Davenport, 35,254; Burlington, 23,201; Council Bluffs, 25,802. Keokuk, Burlington and Dubuque are United States ports of delivery. Cedar Rapids, 25,656.

LEADING INDUSTRIES.—Agriculture, stock-raising and manufacturing.

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KANSAS.

Name Indian, means "Smoky water." Called the "Garden State." Kansas Territory organized May, 1854. Law known as "Missouri Compromise," forbidding slavery in states formed out of Louisiana purchase north of latitude 36 deg. 30 min. repealed, and question of slavery left to the territory. At first it was decided for slavery. Constitution prohibiting slavery adopted July, 1859. Admitted as a state 1861. Union soldiers furnished, 20,149, number counties 106, miles railroad 8,790, first railroad built 1864, 40 miles long. All elections Tuesday after first Monday in Nov. senators 40, representatives 124, sessions biennial, meeting second Tuesday in Jan. in odd-numbered years, limit of session 50 days; term of senators 4 years, of representatives 2 years. Number electoral votes 9, congressman 7. Idiots, insane, convicts and rebels excluded from voting. Number colleges 8, number schoolhouses over 8,000, school age 5-21 years; school system magnificent. Endowment immense. Legal interest 7 per cent, by contract 12 per cent, usury forfeits excess of interest.

POPULATION.—Census of 1900, 1,470,495.

Extreme length E. and W., 410 miles, breadth 210 miles, area 82,236 sq. miles, 51,631,040 acres. No mountains. There is little navigable water. Water powers of fair proportion, irrigation necessary in large sections. Coal area of moderate extent; veins usually thin; quality fair. Soil fine. Corn, wheat, oats, hemp, flax and rye, staples. Castor beans and cotton grows successfully. Soil of prairies deep loam of dark color; bottoms sandy loam. Peculiarly favorable to stock-raising. Prairie rich in grasses. Dairying favored. Fruits successful. Forests small. Limestone and colored chalk furnish building materials. Value improved land averages \$12 per acre, woodland \$15. Manufacturing growing. State ranks fifth in cattle, corn and rye. CLIMATE—Salubrious; winters mild, summers warm, air pure and clear. Temperature averages winter 31 deg., summer 78 deg., ranges 8 deg. below to 101 deg. above zero; such extremes exceptional. Rainfall averages 45 inches at east, 33 inches at west.

CHIEF CITIES.—Census of 1900.—Leavenworth, pop., Topeka (capital) 33,608 Atchison, Fort Scott.; Wichita, Lawrence. State University at Lawrence, state asylums for insane and feeble-minded at Topeka and Ossawatimie; institution for education of the blind at Wyandotte, for deaf mutes, Olathe.

INDUSTRIES.—Agriculture, stock-raising, manufacturing, etc.

SALARIES OF STATE OFFICERS.

Governor \$3,000, Secretary of State \$2,000, Treasurer \$2,500, Auditor \$2,000, Attorney General \$1,500, Superintendent of Public Inst. \$2,000, Secretary Board of Agriculture \$2,000. Insurance Commissioner \$2,500, three Railroad Commissioners \$3,000, State Librarian \$1,500, Chief Justice \$3,000, two Associate Justices \$3,000, Senators and Representatives \$3 per day, mileage 15 cents, District Judge \$3,500, Pension Agent \$4,000.

MAP OF

KANSAS

N E B R

A S K A

Republican

Red Cloud

Atwood

Wano

Bray

Sireator

Kenneth

Buffalo Park

Wallace

Monotony

Wa-Keeney

Hays Cy

Smoky Hill

Scott

Lucretia

Ness Cy

Rush Cen.

Gt. Bend

Beveo

Buckner

Larned

Garden Cy.

Lakin

Deerfield

Caollidge

Pearlette

Belle Meade

Fringer

Adobe

Medicine Lodge

Deep Hole

Anthony

Wichita

Kingman

Mulvane

Norton

Phillipsburg

Stockton

Millbrook

Downing

Osborne

Beloit

Minneapolis

Lincoln

Russell

Salina

McPherson

Lyons

Hutchinsons

St. John

Wichita

Augusta

Severy

Frederick

Edwards

Howard

Cherry Vale

Independence

Sedano

Barren Spr

Columbus

Newegot

Parsons

Pittsburg

Cherokee

Blomgren Bros, Engr's, Chicago

Blomgren Bros, Engr's, Chicago

Blomgren Bros, Engr's, Chicago

Smith Burr Oak

Belleville

Washington

Greenleaf

Clifton

Concordia

Gray Cen.

Mannattand

Meriden

Lawrence

Alma

Carbondale

Garfield

Claiche

Ottawa

Dunlap

Lyndon

Emporia

Garfield

Cottonwood

Falls

Madison

Newton

Eldorado

Eureka

Climax

Charities

Redfield

Wauver

Wagon

Wagon

Wagon

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Anthony

Wichita

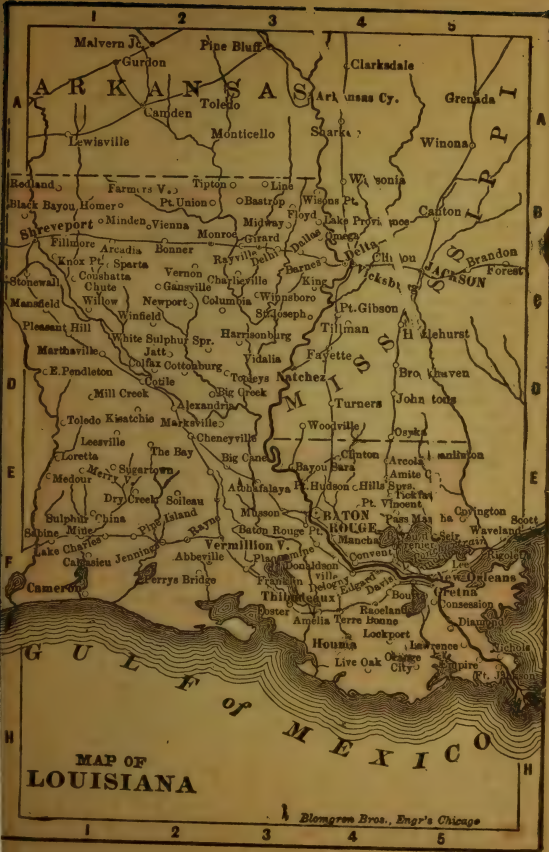
Kingman

Mulvane

LOUISIANA.

Named for Louis XIV of France. Called the "Pelican State" and the "Creole State." First sugar cane cultivated in United States near New Orleans 1751. First sugar mill 1758. First shipment of cotton abroad 1784. Purchased by United States 1803, for \$15,000,000. Louisiana admitted as a state under present name April 8, 1812. In the war with England immediately following, the state made a glorious record, and at the battle of New Orleans, Jan. 8, 1815, humiliated the British and ended the war. Seceded Jan. 26, 1861. Some fighting on the river between boats and forts. New Orleans captured May 1, 1862. 1868, in June, state re-entered Union. Capitol, Baton Rouge. Number of parishes or counties 59, miles railroad 2,501. Legislature and state officers elected quadrennially, members congress biennially, state elections Tuesday after third Monday in April, number senators 38, representatives 98, sessions biennial, in even-numbered years, meeting second Monday in May, holds 60 days, terms of senators and representatives 4 years each. Number electoral votes 8. congressmen 6. Idiots, insane and criminals excluded from voting. Legal interest 5 per cent., by contract 8 per cent., usury forfeits entire interest. Educational facilities average. POPULATION: Census of 1900 — 1,381,625. Number of slaves in 1860 was 331,726. Extreme length east and west 294 miles, breadth 241 miles, area 49,626 square miles, 31,760,000 acres. Coast line 1,276 miles, very irregular navigable rivers 2,700 miles. Mississippi flows in or on the borders of the state. Bays numerous on coast but harbors indifferent. Many small islands in Gulf. Staple products, sweet potatoes, sugar, molasses, rice, corn, cotton, grasses, oats, etc. All fruits of the semi-tropical climate thrive. State ranks first in sugar and molasses and third in rice. Forests almost inexhaustible. Timber superior in kind and quality, lumbering important industry. Salt produced on a large scale. Iron discovered. Cleared land averages \$12.50, woodland \$3 to \$4 per acre. Reclamation of marshes very profitable and beginning to be done on a large scale. Moss-gathering profitable and invites more attention. CLIMATE.—Temperature ranges from 44 to 100 deg., average summer 81 deg., winter 55 deg. Rainfall 57 inches, chiefly in spring and summer. Summers long and occasionally hot. Health average. Actual death rate lower than in many northern sections. Occasional yellow fever in the cities.

CHIEF CITIES—Census of 1900. New Orleans port of entry and largest cotton market in the world 287,104, Baton Rouge, (capital), Shreveport, Morgan City port of entry. State institution for insane at Jackson, for deaf mutes and blind Baton Rouge. INDUSTRIES.—Three-fifths of laboring population engaged in agriculture. Average income of rural population among highest in Union. Number industries 1,600.



MAP OF
LOUISIANA

Blomgren Bros., Engr's Chicago

MAINE.

Called the "Pine Tree State" or "Lumber State;" originally included New Hampshire; settled by French 1604, English in 1607. Number counties 16, Union soldiers 70,107, miles of railroad 1,340. State elections second Monday in Sept., number senators 31, representatives 151, sessions biennial in odd-numbered years, meeting first Wednesday in Jan., terms of senators and representatives 2 years each. Number electoral votes 6, congressmen 4, paupers and Indians not taxed excluded from voting. Number colleges 3, system of common, high and normal schools excellent, school age 4-21 years, legal rate interest 6, by contract, any rate. POPULATION.—Census of 1900. 694,466. Indians—Penobscots 625, Passamaquoddies 502. Extreme length north and south 298 miles, width 210 miles, shore line about 2,480 miles, area 33,056 sq. miles, land 29,885 sq. miles 21,155,840 acres, 37th of states and territories in size. Surface hilly, mountainous toward center. Highest point, Katahdin, 5,400 feet; largest island, Mount Desert, 92 sq. miles. Area of lakes and streams, one-thirteenth entire state. The soil is medium, only except on some of the streams, where it is rich. Hay the best crop. Wheat, oats, corn, hops, potatoes, buckwheat and the ordinary vegetables grow. Cattle do fairly, dairying pays. Half the state is forest of excellent timber. Cleared land averages \$15 and forest land \$14 per acre. Slate, copper and granite are found in large quantities. Winter average 29 deg., summer 67 deg., rainfall 45 inches, snow lies 80 to 130 days. Climate excellent, except for pulmonary troubles. Death rate low. Chief industries—Agriculture and kindred pursuits, lumbering, fisheries, \$3,620,000 yearly; quarrying, ship-building (380 establishments). Principal cities, census of 1900.—Portland (seaport) pop 50,145, Lewiston, Bangor (port of entry), Biddeford, Augusta (the capital), Bath, Rockland

Salaries of State Officers.

Governor.....	\$2,000
Secretary of State.....	1,200
Treasurer.....	1,600
Attorney General.....	1,000
Adjutant General.....	900
Superintendent Common Schools.....	1,000
Secretary Board of Agriculture.....	800
State Librarian.....	600
Chief Justice.....	3,000
Seven Associate Justices.....	3,000
Senators and representatives.....	\$150, mileage 20 cents
District Judge.....	3,500
Collector Internal Revenue.....	2,500
Collector Customs.....	6,000
Surveyor Customs.....	4,500
Pension Agent.....	4,000

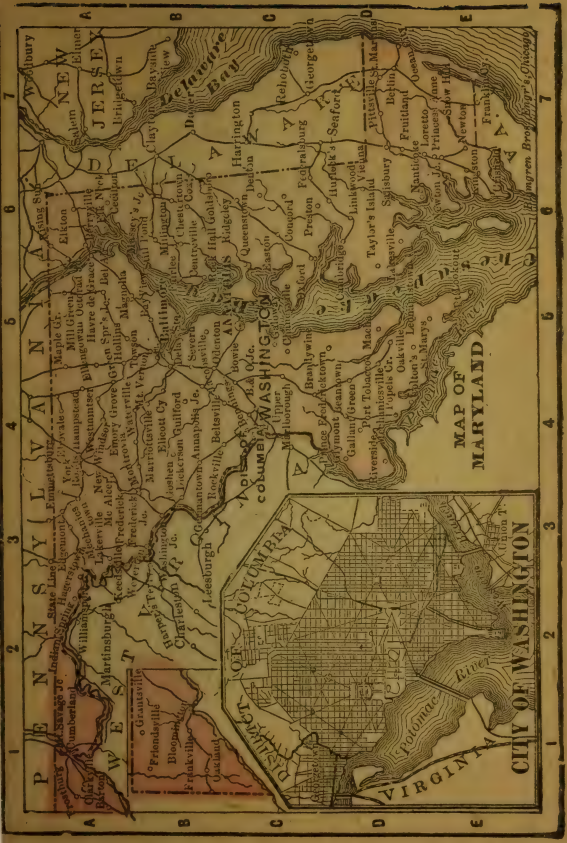


MARYLAND.

One of the thirteen original states. Baltimore laid 1730. Federal congress met at Annapolis 1783, when Washington resigned command of army. Federal constitution ratified April 28, 1778. Fredericktown and other places burned in war of 1812, and Fort McHenry bombarded. First blood of civil war shed at Baltimore. April 19, 1861. Legislature opposed war April 26, 1861, but passed resolutions favoring the South. Battle of Antietam Sept. 16 and 17, 1862. Slavery abolished 1864. Union soldiers furnished 46,638. No. counties 24. Miles railroad 1,316. All elections Tuesday after first Monday in Nov. Number senators 26, representatives 91, sessions biennial in even-numbered years, meet first Wednesday in Jan., and hold 90 days. Term of senators 4 years, of representatives 2 years. Number of electoral votes 8, congressmen 6. Insane, convicts and bribers excluded from voting. No. colleges 11, school age 5-20, school system fair. Legal interest 6 per cent, usury forfeits excess of interest. Population: census of 1900, 1,190,050. No. of slaves in 1860, 87,189. Topography, Area, Soil, Products, etc.—Length E. and W. 196 miles, width 8 to 122 miles, area 12,297 sq. miles. Acreage of state 7,871,000; water surface large. Western and northern sections mountainous and broken. Chesapeake Bay almost divides the state. Tide water coast nearly 500 miles. Chief navigable rivers Potomac, Susquehanna, Patuxent, Patapsco, empty into the bay. At the west is the Youghiogheny. Soil varies from very poor to very good. Cleared land averages \$22.50 and woodland \$14 per acre. The average value of latter lowered by mountain sections. Considerable good timber remains. Enormous coal fields west. Copper is found in Frederick and Carroll counties, iron ore in Allegheny, Anne Arundel, Carroll, Baltimore, Frederick and Prince George's counties. Great oyster, fish, fruit and vegetable producing state. Oyster beds most valuable in Union. Wheat, corn, oats, buckwheat and tobacco staple crops. Opportunities for capital are yet excellent. Climate mild, agreeable and healthful, some little malaria in lowlands. Temperature softened by ocean. Winter averages 37 deg. summer 78 deg. Rainfall 42 inches. Chief Cities, census of 1900, Baltimore, port of entry, pop. 508,957; Annapolis, capital, contains United States Naval Academy, ...; Cumberland, ...; Hagerstown, ...; Frederick, ... Chief industries, agriculture and fruit-growing, oyster and other fishing, canning, coal, iron and copper mining, manufacturers of cotton goods, etc.

Salaries of State Officers.

Governor \$4,500, Secretary of state \$2,000, Treasurer \$2,500, Comptroller \$2,500, Attorney General \$3,000. Chief Justice \$3,500, Seven Associate Justices \$3,500. District Judge \$4,000, Senators and Representatives \$5 per day and mileage, two collectors internal revenue \$2,625 to \$4,000, Collector of Customs \$7,000, two collectors \$250 and \$1,200 fees, Auditor \$2,500, Naval Officer \$5,000, Surveyor \$4,500.



MASSACHUSETTS.

"Old Bay State," one of the thirteen original states. First settlement 1602, abandoned the same year. Explored 1614 by Capt. John Smith. First permanent settlement 1620. Pilgrims landed on Plymouth Rock Dec. 22. Boston settled 1630. First American newspaper, Boston, 1690. Massachusetts was active in bringing on Revolution. Boston massacre, March 5, 1770. Destruction of tea Dec. 16, 1773. Boston Port Bill passed March, 1774. Battle of Lexington, first blood of revolution. Ratified U. S. constitution Feb. 6, 1788. Union soldiers 146,730, besides sailors. Number counties 13. Miles railroad 2,124. All elections Tuesday after first Monday in Nov. Number senators 40, representatives 240, meeting first Wednesday in Jan. Yearly terms of senators and representatives 1 year. Number electoral votes 15, congressmen 13. Paupers, persons under guardians, non-taxpayers and men unable to read and write excluded from voting. School system excellent, attendance compulsory, age 5-15 years. Seven colleges, including Harvard. Legal interest 6 per cent, by contract any rate. Population—Census of 1900, 2,805,346. Females outnumber males. Length. N.-E. to S.-W., 163 miles; breadth 47 miles in western and 100 in eastern part; area of 8,315 square miles, 5,321,600 acres. Coast extensive and irregular with numerous good harbors. The Merrimac River only large stream entering the sea within the state. The Taconic and Hoosac ridges traverse the state at the west. Saddle Mountain, 3,600 feet, the highest peak. The east and northeast divisions are hilly and broken, and the southeast low and sandy. Scenery very beautiful, especially in Berkshire hills. Soil generally light. Hay best crop. Wheat, oats, corn and vegetables grown. Forests practically exhausted. Cleared land averages \$80 and woodland \$45 per acre. Stone is found. No minerals mined. Elizabeth Islands, Martha's Vineyard, Nantucket and smaller islands to the south belong to the state. Winters severe and protracted, summers short and warm. Thermometer ranges from 10 deg. below to 100 deg.; averages, summer 73 deg., winter 24 deg. Snow falls October to April. Rainfall, including snow, 44 inches. Chief industries, agriculture and kindred callings, fishing for cod and mackarel (half the fishing vessels of the Union owned here), manufacture of cotton, woollen, worsted, silk, iron and steel goods, soap and implements, quarrying. Principal Cities: Census of 1900—Boston, 560,892; Lowell, 94,969; Lawrence and Fall River, famous for cotton manufactures. 62,559 and 104,863; Worcester, railroad and manufacturing center, 118,421; Cambridge, seat of Harvard College, 91,786; Lynn, famous, for manufacture of boots and shoes, 68,513; New Bedford, greatest whaling port in the world, 62,442; Springfield, contains greatest arsenal in the United States. 62,059. Ports of entry 9,



MASSACHUSETTS
Population 1,189,385
Area Sq. miles 8,040



MICHIGAN.

Called "Wolverine State." First settlement by Father Marquette, 1668, at Sault Ste. Marie. Admitted as state Jan. 26, 1837. Thirteenth state to enter Union. Received upper peninsula as compensation for disputed territory same year. Capital, Lansing. Union soldiers furnished 87,364. Number counties 83. Miles railroad 7,974. All elections Tuesday after first Monday in November. Number senators 32, representatives 100, sessions of legislature biennial, in odd-numbered years, meeting first Wednesday in January; terms of senators and representatives 2 years each, number electoral votes 14, number congressmen 12. Duelists excluded from voting. Number colleges 9, efficient public schools, school age 5-20 years. Legal interest 7 per cent, by contract 10 per cent. usury forfeits excess of interest. POPULATION, census of 1900, 2,420,982. Extreme length lower peninsula north and south 378 miles, breadth 260 miles. Extreme length upper peninsula east and west 320 miles, width 24 to 165 miles, area 97,990 sq. miles, or 62,713,000 acres. Length shore line 2,000 miles. Lower peninsula consists of plains and table lands, heavily timbered with pine and hardwoods and small prairies. Soil generally good, but patches of sand occur. Fruit raising, especially apples, peaches and grapes, very successful. All cereals make good crop, except corn at north. Staples, wheat, corn, oats, buckwheat, potatoes, barley, etc. Upper peninsula broken, rocky and almost mountainous, rising at west to 2,000 feet above sea. Western portion mining region, eastern portion favorable to agriculture. Rivers, inlets and small lakes numerous. Water good and well distributed. Copper, valuable iron, coal and salt abundant. Timber yet in immense tracts of virgin pine and hardwoods. State ranks first in copper, lumber and salt, second in iron ore, third in buckwheat, fifth in sheep, hops and potatoes. Cleared land averages \$20 per acre, forest \$10. CLIMATE.—Temperature averages at Detroit winter 30 deg., summer 70 deg.; at Sault Ste. Marie, winter 23 deg., summer 65 deg. Rainfall at Detroit 30 inches, at Sault Ste. Marie 24 inches. Health excellent. Temperature at Marquette averages about 3 deg., lower than at Sault Ste. Marie.

CHIEF CITIES, Census of 1900.—Detroit, 285,704; Grand Rapids, 87,765; Lansing (capital), ...; Bay City, 27,628; Saginaw, 42,345; Jackson 25,180; Muskegon, ...; Alpena.; Battle Creek, ...; Flint, ...; Kalamazoo, ...; Menominee, ...; Port Huron, ... Detroit, Marquette, Port Huron and Grand Haven are ports of entry.

CHIEF INDUSTRIES.—Lumbering, mining, farming, fruit raising, manufacturing, fishing, etc.

DOMINION
OF
CANADA
Lakes



MINNESOTA.

"Gopher state." Explored by Fathers Hennepin and La Salle, 1680, via Mississippi river to Falls St. Anthony. Admitted as state, 1858. Foreign immigration immense. Number Union soldiers furnished, 25,052. Number counties, 82. Miles railroad, 6,216. All elections Tuesday after first Monday in November; number senators, 63; representatives, 119; sessions of legislature, biennial, in odd-numbered years, meeting Tuesday after first Monday in January; holding 60 days; term of senators, 4 years; representatives, 2 years. Number electoral votes, 9; congressmen, 7; idiots, insane and convicts not voting. Number colleges, 5; school age, 5-21; school system, first-class. Legal interest rate, 7%; by contract, 10%; usury forfeits excess over 10%.

Population, census of 1900, 1,751,394; Indians, 2,300. Length N. and S. 378 miles, average width 261 miles, area 86,335 sq. miles, 55,244,400 acres. Surface rolling plain 1,000 feet above sea level, except at N. E., where are a series of sand hills called "Heights of Land," 1,600 feet high. It is the state of small lakes, including over 7,000, varying from a few rods to 32 miles across. In one of these, Itasca, the Mississippi rises and flows 800 miles through the state. The other principal rivers are the Minnesota, Red River of the North, and the St. Louis. Small streams and lakes make water plentiful. The scenery is picturesque and beautiful. The soil is splendid, as a rule, and the accessibility to market and general attractions render the state especially favored by agriculturists. The forests of the state are small (2,000,000 acres), but in parts are rich in fine timbers. Two-thirds of the state is unoccupied. Cleared land averages \$12.50 per acre and woodland \$8. Wheat is the great crop. Corn, oats, barley, hay and dairy products are also staples. State ranks fourth in wheat.

CLIMATE.—Healthful. Air pure and dry, summers warm, averaging 68-70 deg.; winters cold, averaging 9-24 deg. Rain-fall, 36 inches, chiefly in summer. Snowfall medium. The dryness mitigates the cold in winter. CHIEF CITIES, CENSUS of 1900.—Pembina, port of entry on Red River. St. Paul, capital, 163,065; Minneapolis, 202,718; Duluth, 52,969; Winona, ...; Stillwater, ... CHIEF INDUSTRIES.—Agriculture, dairying, milling, etc.

Salaries of State Officers.

Governor.....	\$5,000
Lieutenant Governor.....	600
Secretary of State.....	1,800
Treasurer.....	3,500
Auditor.....	3,000
Attorney General.....	2,500
Superintendent of Public Instruction.....	2,500
Adjutant General.....	1,500
Finance Examiner.....	3,000
Insurance Commissioner.....	2,000



MAP OF MINNESOTA

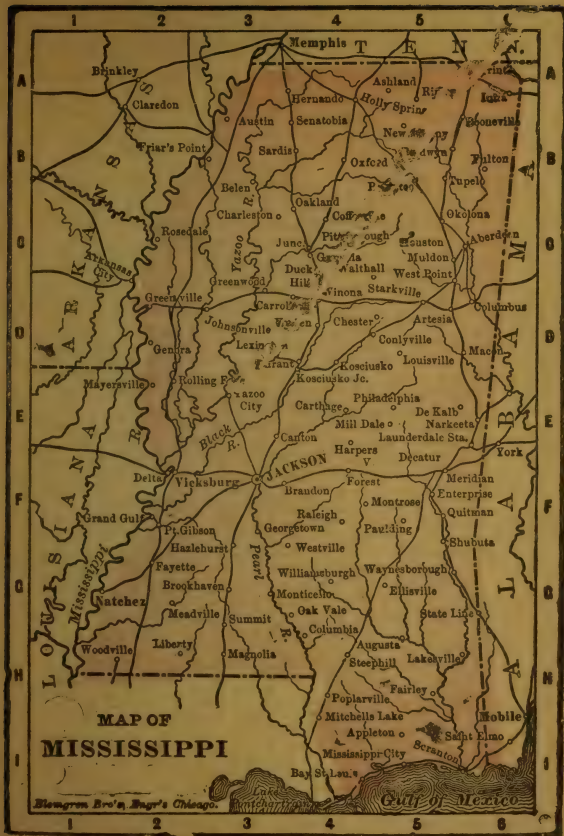
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MISSISSIPPI.

Indian name meaning Father of Waters. "Bayou State." Visited by De Soto 1542, by LaSalle 1682. Settled Biloxi, 1699, by M. de Iberville. Formed a part of the territory of Louisiana, and belonged to France. Admitted as a state Dec. 10, 1817. Seventh state admitted. Capital fixed at Jackson, 1822. Shiloh the most notable battle of the rebellion in the state. State re-entered Union 1870. Number counties 75, number miles of railroad 2,681. State officers elected quadrennially, and legislature every two years, all elections Tuesday after first Monday in Nov., sessions of legislature biennial, in even-numbered years, meeting Tuesday after first Monday in Jan., number senators 37, representatives 120, term of senators 4 years, of representatives 2 years, number electoral votes 9, congressmen 7. Idiots, insane and criminals excluded from voting. Number colleges 3, school age 5-21, school system fair. Legal interest 6 per cent, by contract 10 per cent., usury forfeits excess of interest. Population, census of 1900, 1,551,270. Number of slaves in 1860, 436,631. Greatest length north and south, 364 miles, average width 143 miles, area 49,919 sq. miles, 31,948,160 acres. Coast line, including islands, 512 miles. Harbors, Biloxi, Mississippi City, Pascagoula and Shieldsburg. Surface undulating with a gradual slope from elevation of 700 feet at N. E., W. and S. to the Mississippi and Gulf. Some hills reach 200 feet above surrounding country. From Tenn. line S. to Vicksburg. Mississippi bottoms wide, flat, with more or less swamp, and covered with cypress and oak. Soil an inexhaustible alluvium. Soil light but productive, at south sandy with pine growth. Cotton prolific. Staple crops, cotton, rice, sugar, molasses, tobacco, corn, sweet potatoes, grapes for wine. Fruits and vegetables are splendid crops, but are neglected. Forest area large, pine, oak, chestnut, walnut and magnolia grow on uplands and bluffs, long-leaved pine on islands and in sand. Lumbering important industry, mules raised with great success. State ranks second in cotton, fifth in rice. Oyster and other fisheries valuable. Cleared land averages \$7.50 per acre, woodland \$3. Climate mild, snow and ice unknown. Summers long and warm, July and Aug. hottest months. Temperature averages summer 80 deg., winter 50 deg. Rainfall 46 in. at north, 58 in. at south. Highlands very healthy. Malaria in bottoms. **CHIEF CITIES,** census of 1900—Jackson (capital); Natchez, ...; Vicksburg, ...; Meridian, ...; Columbus, ...; Yazoo City, ... **LEADING INDUSTRIES.**—Agriculture, lumbering, fishing and canning.

Salaries of State Officers—

Governor \$3,500, Lieutenant Governor, \$800, Secretary of State \$2,500, Treasurer \$2,500, Auditor \$2,500, Attorney General \$2,500, Superintendent of Public Education \$2,000, Commissioner of Agriculture \$1,000, Land Commissioner \$1,000.



MISSOURI.

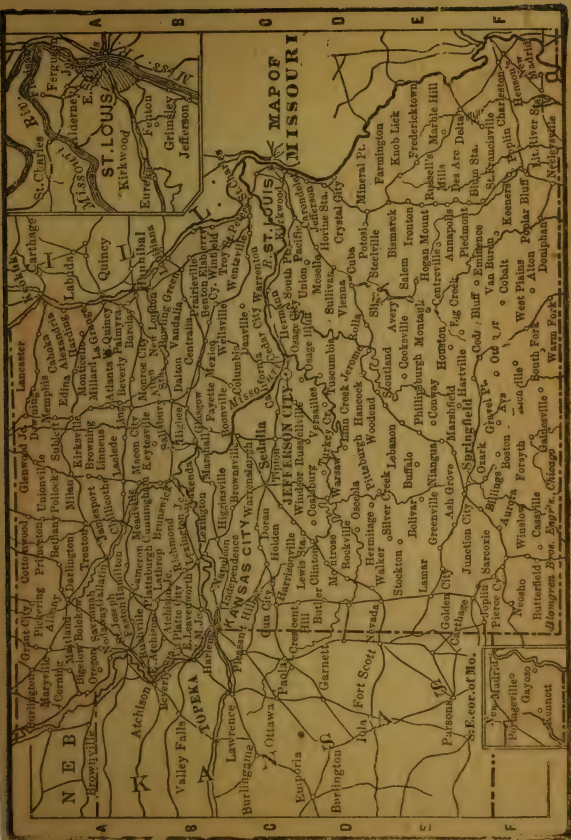
Name Indian, means "Muddy River." Settled first at St. Genevieve. Organized as territory under present name 1812, included Arkansas, Indian Territory, etc. Admitted March, 1821. Eleventh state admitted. Admission aroused much discussion. "Missouri Compromise" effected and state permitted to retain slavery. State divided on secession and was scene of perpetual internal warfare. Martial law declared Aug., 1862. Union soldiers furnished, 109,111. Number counties 115. Miles railroad 6,762. State officers elected quadrennially, and legislature every 2 years. All elections Tuesday after first Monday in Nov., number senators 34, representatives 140, sessions of legislature biennial in odd-numbered years, meeting Wednesday after Jan. 1, holds 70 days, term of senators 4 years, representatives 2 years. Number electoral votes 17, congressmen 15. United States army and inmates of asylums, poorhouses and prisons excluded from voting. Number colleges 17, school age 6-20, school system good, endowment large. Legal interest rate 6 per cent. by contract 10 per cent, usury forfeits entire interest. Population, census of 1900—3,106,665.

Length N. and S. 575 miles. Average width 246 miles. Area 69,137 sq. miles, 44,747,680 acres. Soil generally good. South the surface is broken with hills, sometimes 1,000 feet high. The most noted, Iron Mountain and the Ozarks. West of Ozarks is a prairie region with wide, deep, fertile valleys. Entire area well watered by small streams, springs, etc. Chief crops, corn, wheat, oats, potatoes, tobacco. Fruits do splendidly. Peaches especially fine. Vegetable gardening successful. Improved land averages \$12. unimproved \$7 per acre. Coal, iron, marble, granite, limestone, lead and copper found in enormous deposits. Lead area 5,000 sq. miles. Forests magnificent. Growth walnut, poplar, oak and the hardwoods, grazing a leading business both in extent and profit. Stock of all kinds raised with success. State ranks first in mules, third in oxen, hogs, corn and copper, fifth in iron ore.

Climate variable, with sudden changes, but generally pleasant and healthy. Summers are long and warm, but not enervating. Winters moderate, with occasional severe days. Average temperature, summer 76 deg., winter 39 deg. Rainfall greatest in May, average 34 inches.

CHIEF CITIES, census of 1900.—St. Louis, largest city west of the Mississippi, port of entry and great commercial and manufacturing point, 575,238. Capital, Jefferson City, ... Pop. St. Joseph, 102,979; Kansas City, 163,752; Springfield, ...; Hannibal, ...

LEADING INDUSTRIES.—Agriculture, mining, manufacturing, quarrying, grazing, fruit and vegetable growing, lumbering, etc.



MONTANA.

Gold discovered 1860. Formed part of Idaho, organized 1863. Organized as territory May, 1864. Custer massacre June 25, 1876, 350 men of the 7th United States Cavalry annihilated by Sioux under Sitting Bull, on the Little Big Horn river. Number counties 22. Miles of railroad 2,915. All elections Tuesday after first Monday in November. Number senators 24, representatives 70. Sessions of legislature biennial, in odd-numbered years, meeting second Monday in January, holds 60 days, terms of senators and representatives 2 years each. School age 4-21 years, graded schools in Deer Lodge City, Virginia City and Helena. School lands reserved for sale when territory becomes state valuable and extensive. Legal interest 10 per cent, by contract any rate. Admitted 1890.

POPULATION.—Census of 1900—243,329. Extreme length E. and W. 540 miles, average width 274 miles, area 147,061 sq. miles, 94,119,040 acres, two-fifths good farm land, of which about 4,000 acres is cultivated. Three-fifths of territory rolling plains, rest mountainous. Surface fairly supplied with small streams. Timber supply ample. Soil good. Immense area of arable land. Wheat best crop, oats, potatoes, hay, also staples. To cold for corn. Area grazing land, over two-thirds territory. Grazing interest great. Splendid grazing grounds yet untaken. Mineral wealth great. Ranks fifth in silver and in gold. Climate dry. Rainfall about 12 inches. Warmer than same latitude farther east. Snows heavy in mountains, light in valleys and on plains. Temperature averages summer 62 deg., winter 18 deg. Colder in mountains. Health excellent.

CHIEF CITIES.—Three United States districts, court held twice a year at Helena, twice at Virginia City, and three times at Deer Lodge. Helena, capital and most important town.

LEADING INDUSTRIES.—Mining, lumbering, grazing, agriculture, smelting, etc.

Salaries of Territorial Officers.

Governor.....	\$2,600
Secretary.....	1,800
Treasurer.....	1,500
Auditor.....	1,500
Superintendent of Public Instruction.....	1,200
Chief Justice.....	3,000
Two Associate Justices.....	3,000
Senators and Representatives...\$4 per day and 20 cents mileage	
Surveyor General.....	2,500
Chief Clerk.....	1,800
Chief Draftsman.....	1,600
Collector of Internal Revenue.....	2,500

D O M I N I O N O F C A N A D A



MAP OF MONTANA



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NEBRASKA.

Name Indian, means "Shallow Water." Nebraska Territory organized May, 1854. Few settlements till 1864. Idaho cut off March, 1863, and present boundaries fixed. Bill to admit July, 1866, unsigned by President Johnson, and another January, 1867, vetoed. Bill passed over veto February, 1867. Admitted that year. Lincoln capital. Union soldiers furnished 3,157. Number of counties 90. Miles of railroad, 1899, 2,915. All elections Tuesday after first Monday in November, number senators 33, representatives 100, sessions biennial, in odd-numbered years, meeting first Tuesday in January, holding 40 days, terms of senators and representatives 2 years each, number electoral votes 8, number congressmen 6. U. S., army, idiots and convicts excluded from voting. Number colleges 9, school age 5-21, school system superior, school endowments liberal. Legal interest, 7 per cent, by contract 10 per cent, usury forfeits interest and cost.

Population, census of 1900, 1,068,539.

TOPOGRAPHY, AREA, SOIL, PRODUCTS, ETC.--Extreme length E. and W. 424 miles, width 210 miles, area 77,531 sq. miles, 49,619,840 acres. Surface a vast plain, undulating gently, and principally prairie with a few low hills. At extreme northwest are spurs of the Rocky mountains, and Black Hill country begins, general slope from W. to E., Missouri, Platte, Niobrara, Republican and Blue, principal rivers, and are fed by numerous smaller streams. Southern portion of state peculiarly favorable to all kinds of crops, western half magnificent series of pastures and best suited to grazing. Whole eastern two-fifths a great natural garden. Corn the great crop; wheat, oats, hay, rye, buckwheat, barley, flax, hemp, apples, plums, grapes, berries, staples and flourish. Cattle raising of vast importance and magnitude. Good herd laws. No important minerals. Manufacturing growing wonderfully. Improved land averages \$9, unimproved \$5 and woodland \$18 per acre.

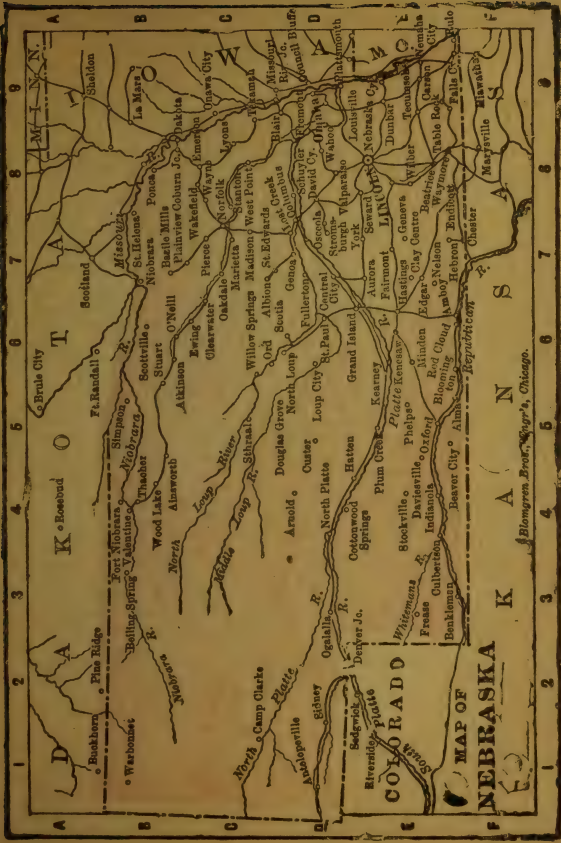
Climate dry, salubrious and free from malaria. Temperature averages, summer, 73 deg., winter 20 deg. Rainfall east of 100th meridian, including snow, 25 inches, heaviest in May. At west, precipitation falls to 17 inches. Rainfall gradually increasing.

CHIEF CITIES, Census of 1900.—Omaha, U. S. port of delivery, commercial center, 102,555; Lincoln contains State University, 40,169; Plattsmouth, ...; Nebraska City, ...; Hastings; Fremont, ...; Columbus, ...

LEADING INDUSTRIES.—Agriculture, cattle-raising, dairying, manufacturing, etc.

Salaries of State Officers.

Governor \$2,500, Lieutenant-Governor \$6 a day, Secretary of State \$2,000, Treasurer \$2,500, Auditor of Public Accounts \$2,500, Attorney-General \$2,000, Superintendent of Public Ins. \$2,000.



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NEVADA.

"Sage Hen State." First settlements in Washoe and Carson valleys 1848. Gold discovered 1849, silver 1859. Territory organized March, 1861. Admitted as state October, 1864. Number counties 14. Miles railroad 898. Governor and state officials elected quadrennially, and legislature every 2 years, on Tuesday after first Monday in November; number senators 15, representatives 30, sessions of legislature biennial, in odd-numbered years, meeting first Monday in January, holding 60 days. Term of senators 4 years, of representatives 2 years. Idiots, insane and convicts excluded from voting. School age 6-18 years. Legal interest rate 10 per cent, by contract any rate.

c Population, census of 1900—42,335.

Extreme length N. and S. 485 miles, width 320 miles, area 110,679 sq. miles, 70,834,560 acres. Lake Tahoe, 1,500 feet deep, 10x22 miles in area and 9,000 feet above sea, temperature year round 57 deg. Many mineral springs, warm and cold. Great part of surface unavailable for cultivation. Considerable areas of grazing land; many valleys, rich, easily worked and prolific soil. Corn, wheat, potatoes, oats and barley, staple crops; horses, mules, cattle, hogs and sheep do well. Forests valuable. Mineral resources enormous. Comstock lode supposed to be richest silver mine in the world; Eureka one of the most productive. Rich in lead and copper; zinc, platinum, tin and nickel, plumbago, manganese, cobalt, cinnebar, etc., found. Extensive deposits of borax. Coal and iron. Ranks second in gold, fourth in silver. Kaolin, building stones, slate, soda and salt are obtained. Little land improved.

Climate mild in valleys; little snow except on mountains. At north mercury sometimes falls to 15 deg. below zero; air bracing, health good. Extremes of cold unknown. Summer heat occasionally reaches above 100 deg. Temperature averages, summer 71 deg., winter 36 d. Rainfall slight, chiefly in spring.

CHIEF CITIES, census of 1900—Virginia City, chief commercial center, pop.; Carson City (capital), and contains a branch mint, pop.

Leading Industries—Mining, reducing ores, lumbering, agriculture, etc.

Salaries of State Officers.

Governor.....	\$4,000
Lieutenant Governor....	3,000
Secretary of State.....	3,000
Treasurer.....	3,000
Comptroller.....	3,000
Attorney General.....	3,000
Superintendent of Public Inst.....	2,400

O R E G O N I D A H O



NEW JERSEY

One of the thirteen original states. Battles of Trenton, Princeton, Monmouth and others fought within its borders during the Revolution. State Constitution adopted 1776, revised 1844, and amended in the present decade. United States Constitution unanimously adopted Dec. 1787. Capital established at Trenton 1790. A slave state till 1860, when but 18 slaves remained, and it was counted a free state. Union soldiers furnished, 75,814. State contains 21 counties, and has 2,237 miles railroad. State elections annual, same date as congressional and presidential. Number of senators 21, representatives 60, meeting of legislature 2d Tuesday in January. Term of senators 3 years, representatives 1 year. Number of electoral votes 9, congressmen 7. Paupers, idiots, insane and convicts excluded from voting. Number colleges 4, schools good, school age 5-18. Legal interest 6 per cent, usury forfeits entire interest. Population, census of 1900—1,883,669 Miles of railroad in 1900, 2,237 Length north and south 158 miles, width 38 to 70 miles, area 8,173 sq. miles, or 5,230,720 acres. Forty-third state in size. Atlantic coast 128 miles, Delaware Bay coast 118 miles. The famous palisades of the Hudson at the northeast are 600 feet high. Toward center state slopes to a rolling plain, and at south becomes flat and low. Hudson river forms the eastern border. Delaware Water Gap and Falls of Passaic are the natural wonders of the state. Cleared land averages \$80 and woodland \$60 per acre. Hay the best crop. Other staple crops are potatoes, wheat, corn, rye, buckwheat, cranberries, fruit and garden produce. Little woodland valuable for timber remains. Iron and fertilizing marls are abundant. Climate variable; temperature averages, summer 68 deg. to 75 deg., winter 31 deg. to 38 deg. Range of temperature from about zero to 100 deg. Rainfall, including snow, 46 inches, reaching 50 inches in the highlands, and falling to 40 inches at the south. Highlands and seashore healthy. Ague and malarial fevers in the lowlands. PRINCIPAL CITIES, census of 1890.—Newark, Perth Amboy, Great Egg Harbor, Tuckerton, Bridgeton and Lumberton are ports of entry. Newark, pop. 246,070; Jersey City, 206,433; Trenton (capital) 73,307; Paterson 105,171; Elizabeth 52,130; Hoboken 59,364; Camden 75,935; Atlantic City, 27,838; Bayonne 32,722; New Brunswick; Passaic 27,777.

CHIEF INDUSTRIES.—Manufacture of fabrics, jewelry, clay wares and brick, flour, crystals, fishing, oyster fishing, gardening, agriculture, marl and iron ore digging, etc.

SALARIES OF STATE OFFICERS.

Governor \$10,000, Secretary of State \$6,000, Treasurer \$4,000, Comptroller \$4,000, Attorney General \$7,000, Superintendent of Public Instruction \$3,000, Adjutant General \$1,200, Librarian \$1,500, Chief Justice \$7,500, Eight Associate Justices \$7,000, Chancellor \$10,000, Senators and Representatives \$500 a year, District Judge \$3,500, Superintendent of Life Saving Service \$1,400, Thirty-nine Keepers \$700.



NEW MEXICO.

Name supposed to be of Aztec god. Settled earlier than any other part U. S. Permanent settlement, 1596. Santa Fe, then an Indian town, chosen as a seat of Spanish government. The natives were enslaved and forced to work in the fields and mines. Organized as Territory, 1850. Santa Fe captured by Confederates, 1862, but soon abandoned. Number counties 13. All elections, Tuesday after first Monday in Nov. Number senators 12, representatives 24, sessions of legislature biennial, in even numbered years, meeting first Monday in Jan., held 60 days. Terms of senators and representatives 2 years. School age, 7-18 years. Legal interest rate, 6 per cent, by contract 12 per cent. Miles railroad in 1900, 1539.

Population, census of 1900.—195,310.

Average length north and south, 368 miles, width 335 miles. Area 122,687 sq. miles, 78,519,680 acres. Elevation 3,000 to 4,000 feet. Mountain peaks 12,000 feet. The staked plain, an elevated region, unwatered and without wood, extends into the southeastern part of the territory. No streams are navigable in the territory. Timber scarce, except in few sections. The mountains are clothed with pine, spruce and fir. Cedar grows in foothills, and cottonwood and sycamore in valleys. Soil rich where water can be had for irrigation or on streams. Corn, wheat, oats, alfalfa, grapes, vegetables, especially onions and root crops and semi-tropical fruits are prolific. Sheep raising very profitable. Grazing interests extensive. Gold found in Grant, Lincoln, Colfax and Bernalillo counties, rich copper mines in Bernalillo county, and in the Pinos Altos region. Zinc, quicksilver, lead, manganese and large deposits of coal have been found. Irrigable surface, 7,000 sq. miles.

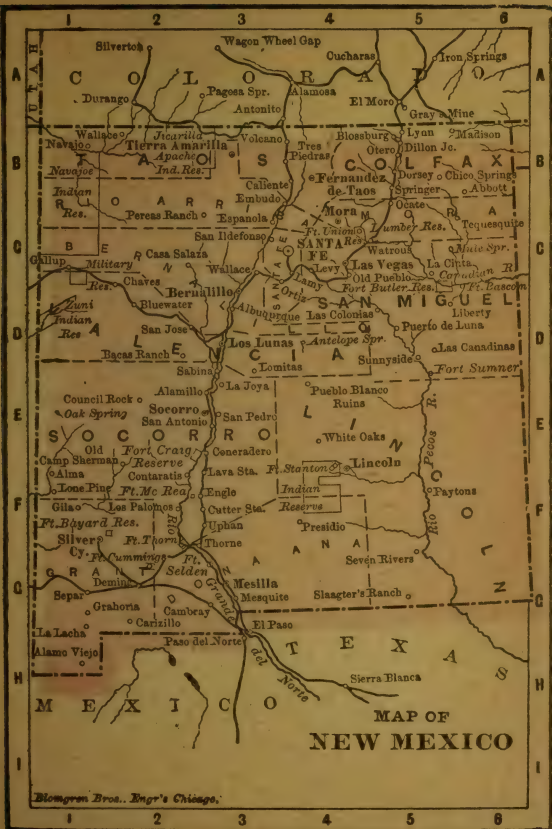
Climate varies with different elevations. Temperature averages, summer, 70 deg., winter, 33 deg. Range of temperature, 4 deg. below zero to 90 deg. above. It is much warmer than the average in the lower altitudes, and colder in the higher. Air dry, rarified and pure. Rainfall, 9 to 11 inches.

CHIEF CITIES.—Santa Fe, capital, pop. Las Vegas, Silver City and Albuquerque.

LEADING INDUSTRIES.—Mining, stock-raising and agriculture.

SALARIES OF TERRITORIAL OFFICERS.

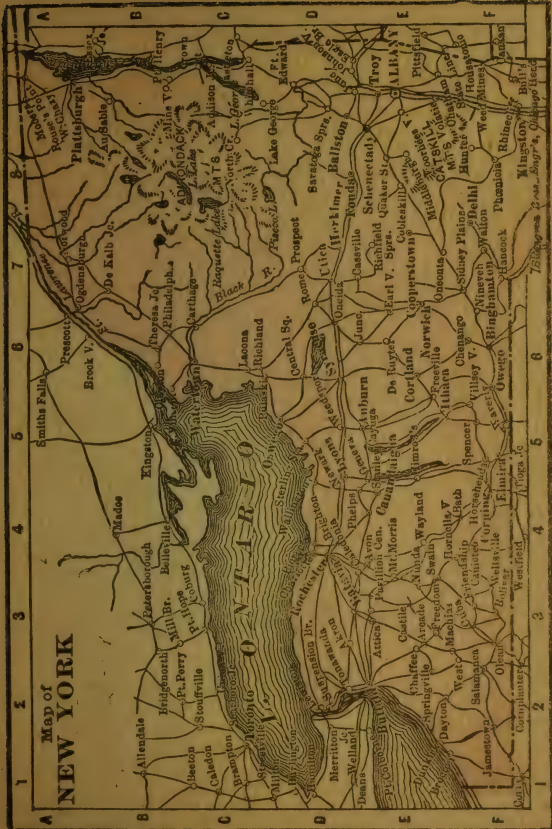
Governor.....	\$2,600
Secretary.....	1,800
Treasurer.....	1,000
Auditor.....	1,000
Commissioner of Immigration	900
Librarian.....	600
Chief Justice.....	3,000
Two Associate Justices.....	3,000



NEW YORK.

One of the 13 original states, "Empire State." Explored by Henry Hudson, Sept., 1609. Samuel de Champlain discovered and named Lake Champlain. Holland owned the territory. The Dutch settled on Manhattan Island, 1614. Country called "New Netherlands." Manhattan Islands purchased from Indians for \$24, 1626. Indian troubles 1640-45. Swedish settlements on the Delaware incorporated with the New Netherlands, 1655. England claimed the country as part of Virginia, captured (Manhattan New Amsterdam) Aug., 1664, and named it New York. New York the battle-field of the French-English war 1754. was prominent in the Revolution. West point fortified 1777-78. New York city capital 1784 to 1797. Slavery abolished 1817. Union soldiers furnished, 448,850; number counties 61, custom districts 10, first railroad Albany to Schenectady 1831, miles of railroad 8,299, miles canal 900. State officers elected every 4 and senators (32 in number) every 2 years, representatives (125 in number) yearly, on same day as presidential election. Legislature meets first Tuesday in Feb. yearly, congressmen 34, presidential electors 36. Election betters and bribers and convicts excluded from voting. School system superior, includes 28 colleges. School age 5 to 21 years. Legal interest 6 per cent, usury forfeits principal and interest. Population, census of 1900—7,268,012. Extreme length E. and W. 410 miles, extreme width 311 miles, area 53,719 sq. miles, 34,380,160 acres, water frontage 900 miles, surface varied. The Hudson rising in the Adirondacks, and flowing south over 300 miles to New York bay, is the chief stream. The Allegheny and its tributaries drain the S. W., and the Susquehanna the southern central division. The Mohawk is the chief affluent of the Hudson. The state is noted for the beauty of its lakes. Long, Manhattan and Staten Islands form important divisions of the state. The soil is also varied, and agriculturally the state is very rich. Cleared land averages \$60 and wooded \$40 per acre. Considerable forests yet remain. The production of corn, wheat and dairy products is very large. The state ranks first in value of manufactures, soap, printing and publishing, hops, hay, potatoes, buckwheat and milch cows, second in salt, silk goods, malt and distilled liquors, miles railway and barley, third in agricultural implements, iron ore, iron and steel, oats and rye. Climate diverse, mean annual temperature for the state 47 deg. In the Adirondacks the annual mean is 39 deg., in the extreme south it is 50 deg., average rainfall 43 in. including snow, the fall being greatest in the lower Hudson valley, and smallest (32 in.) in the St. Lawrence valley. Range of temperature 10 deg. below to 100 above zero. CHIEF CITIES, census of 1900—New York City, pop. 3,437,202; Brooklyn (incl. in New York); Buffalo, "Queen City of the Lakes" 352,387; Rochester 162,608; Syracuse 108,374; Albany (capital) 94,151; Troy 60,651; Binghamton 39,647; Auburn 30,345. CHIEF INDUSTRIES.—Manufacturing of all kinds, agriculture, dairying, the trades, etc.

Map of NEW YORK



Scale 12 miles

OHIO.

"Buckeye State." Explored by LaSalle 1679. Ohio Territory organized May 7, 1800. Admitted as a state April 30, 1803. Number Union soldiers furnished 313,180. Number counties 88. State and congressional elections second Tuesday in October. Number senators 29, representatives 108, sessions biennial, but "adjourned sessions" practically amount to annual meetings; assembles first Monday in January. Terms of senators and representatives 2 years each. Number electoral votes 23. Number congressmen 21. Insane and idiots excluded from voting. Number colleges 35, school age 6-21, school system first-class. Legal interest rate 6 per cent, by contract 8 per cent, usury forfeits excess. Miles of railroad 8,736. Population, census of 1900.—4,157,545. Extreme length E. and W. 225 miles, breadth 200 miles, area 44,464 sq. miles, 28,456,960 acres. Includes Kelley's and Bass islands in Lake Erie. Lake frontage 230 miles, Ohio river frontage 432 miles. Entire state well watered. Valleys extremely productive. Uplands fertile as a rule. Ohio ranks first in agricultural implements and wool, second in dairy products, petroleum, iron and steel, third in wheat, sheep, coal, malt and distilled liquors, fourth in printing and publishing, salt, miles railway and soap, fifth in milch cows, hogs, horses, hay, tobacco and iron ore. Coal, building stones, iron ore and salt are found in vast quantities. Staple crops, wheat, corn, oats, potatoes, tobacco, buckwheat, etc., vegetables, apples, and the hardier fruits. Cleared land averages \$45, woodland \$40 per acre. Little forest valuable for lumber remains, except in small reserves. Climate as healthful as any in the United States. Warmest on Ohio River. Temperature for state averages, winter 35 deg., summer 77 deg., range of temperature 16 deg. below zero to 101 deg. above. Snowfall considerable. Average rainfall, including snow, 42 inches, decreases to 37 in. at north and increases to 47 inches at south. CHIEF CITIES, census of 1900—Cincinnati, 325,902; Cleveland, 381,768; Columbus, capital, 125,560; Dayton, 85,333; Springfield, 38,253; Toledo, 13,1822; Canton, 30,667; Youngstown, 44,885.

OKLAHOMA.

Means in Indian "Beautiful country." Formerly a part of Indian Territory; opened up for settlement by Pres. Harrison, April 22, 1899. Organized as a Territory in 1890; increased by a large tract in 1891, and again by the addition of the Cherokee Strip or Outlet in the North, 1893. Bounded by Kansas and Colorado on the North, Indian Territory on the East, Texas and New Mexico on the West. Area, 39,030 sq. mi., or 24,979,200 acres. Began (1890) with a population of 61,834. Census of 1900, pop. 398,245, equal to the population (in the same census) of the States of Nevada, Wyoming and Utah combined. CHIEF CITIES.—Guthrie (capital), Oklahoma City, Woodward.



OREGON.

Name means "Wild Thyme." Oregon territory organized August, 1848. Indian troubles, 1844, '47 and '54. Oregon admitted as a state 1859. Number counties 32, miles railroad 1,599. State officers elected quadrennially, and legislature every two years; number of senators 30, representatives 60, sessions of legislature biennial in odd-numbered years, meeting first Monday in Jan., holds 40 days, term of senators 4 years, representatives 2 years. Number electoral votes 4, congressmen 2. United States army, idiots, insane, convicts and Chinese not voting. Number of colleges 7, school age 4-20, school system good. Legal interest rate 8 per cent, by contract 10 per cent, usury forfeits principal and interest.

Population—Census of 1900, 413,536.

Average length E. and W. 362 miles, average width 260 miles, area 96,838 sq. miles, 61,976,320 acra. Two-thirds entire state mountainous, with wide rich valleys. Columbia river 1,300 miles long, navigable 175 miles, full of cascades and runs through entrancing scenery. Soil generally superior. Wheat the best crop, superior in yield and quality; other crops do well, as do also fruits and vegetables, etc. Extremely favorable to cattle and sheep. Rich in minerals, gold in Jackson, Josephine, Baker and Grant counties, copper in Josephine, Douglas and Jackson, iron ore throughout the state, coal along coast range. Timber resources enormous, and but little touched. Salmon fisheries among best in world. Improved land averages \$17.50, unimproved \$4. Area arable two-fifths state, forest one-sixth state.

Climate—In western Oregon moist, equable, rainfall 59 inches. In eastern Oregon dry. Both pleasant and healthful, though subject to occasional extremes at east. Crops in east do not suffer, however, from drouth. At west snow and ice unknown, except on peaks, where it is perpetual. Frosts on high lands. Average temperature summer 65 deg., winter 45 d.

CHIEF CITIES—Census of 1900: Portland, Astoria and Coos Bay ports of entry. Portland, 90,426; Salem (capital, . . . ; East Portland, ... ; Astoria, ...

Leading Industries—Agriculture, grazing, mining, fishing, lumbering, fruit growing, canning, etc.

Salaries of State Officers.

Governor.....	\$1,500
Secretary of State, Auditor and Comptroller.....	1,500
Treasurer.....	800
Superintendent of Public Instruction.....	1,500
State Librarian.....	500
Chief Justice.....	2,000
Two Associate Justices.....	2,000
Senators and Representatives... \$3 a day and 15 cents per mile	
District Judge.....	3,500

MAP OF OREGON



PENNSYLVANIA.

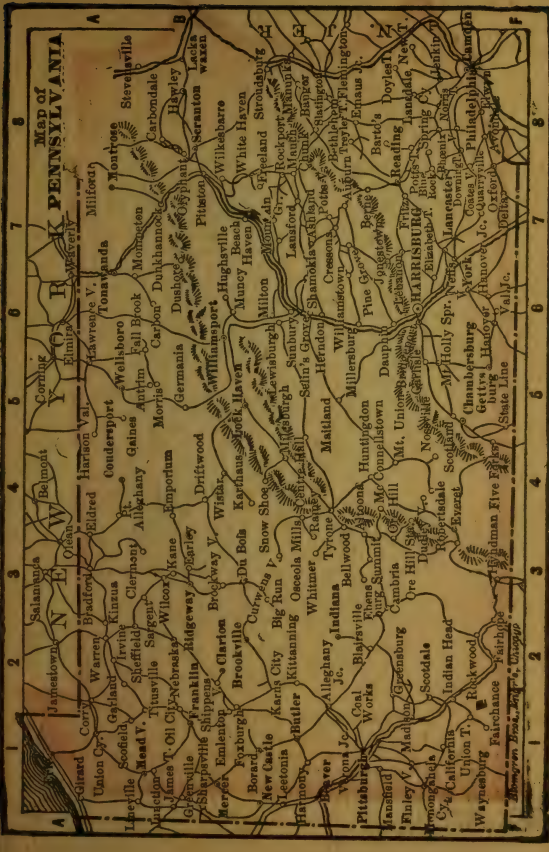
One of the thirteen original states, named for Wm. Penn, the "Keystone State." State invaded three times by confederates, 1862, 1863, when battle of Gettysburg was fought, and 1864, when Chambersburg was destroyed. Union soldiers furnished, 337,930. Number counties 67, miles railroad, 9,909. State elections annual, same date as presidential. Number senators 50, representatives 204, sessions biennial, meeting first Tuesday in Jan., hold 150 days, term of senators 4 years, representatives 2 years, number electoral votes 30, congressmen 28. Non-taxpayers and bribers excluded from voting. Number colleges 26, school age, 6-21, school system good. Legal interest 6 per cent. Usury forfeits excess of interest. Population.—Census of 1900—6,302,115. TOPOGRAPHY, AREA, SOIL, PRODUCTS, ETC.—Length east and west 300 miles, width 176 miles, area 45,928 sq. miles, 29,393,920 acres. Surface very diverse. Level at the southeast, hilly and mountainous toward the center, and rolling and broken at the west and southwest. Soil varies from barren hills to sections of great fertility. Many superb farms. Cleared land averages \$45, woodland \$30 per acre. Much good timber remains. Farms average 100 acres. Oil, coal (anthracite at east, bituminous at west), iron, copper, kaolin, building stones, salt abound. Rye, corn, wheat, buckwheat, potatoes, vegetables, hay, oats, tobacco are staple crops. Dairying and stock flourish. Climate in mountains severe in winter, with much snow, summers pleasant. Summers hot on the Delaware reaching 100 deg. Summers long in Susquehanna valley. West of mountains summers hot and of moderate length, winters cold. Average winter temperature 34 deg., summer 74 deg., rainfall including snow averages 42 inches. Climate healthy. CHIEF CITIES.—Census of 1900, Philadelphia contains mint and navy yard, 1,293,697; Pittsburg, extensive manufacturing city, 321,616; Harrisburg, capital, 50,167; Alleghany, 129,896; Erie, 52,733; Scranton, 102,026; Lancaster, 41,459; Reading, 78,961; Wilkesbarre, 51,721. INDUSTRIES.—Pennsylvania is the great oil and coal state. The other industries include agriculture and kindred pursuits, lumbering, manufacture of paper, woollens, liquors, implements, machinery, etc.

Salaries of State Officers.

Governor.....	\$10,000
Lieutenant Governor.....	3,000
Secretary of State.....	4,000
Treasurer.....	5,000
Auditor General.....	3,000
Attorney General.....	3,500
Chief Justice.....	8,500
Six Associate Justices.....	8,000
Senators and Representatives, \$4,000 for 100 days; \$40 per day; mileage 5 cents.	

For the Philippines and Porto Rico see pages 533—535.

Map of PENNSYLVANIA



RHODE ISLAND.

One of the 13 original states. Called "Little Rhody." First settled at Providence, 1636, by Roger Williams. Island of Aquidneck (Rhode Island) bought from Indians, 1638, and Newport and Portsmouth founded. Lands of Narragansett Indians acquired by purchase, 1709. R. I. seamen distinguish themselves in the Anglo-French wars, 1750 to 1763, and in the Revolution. Union soldiers furnished, 23,236. Number counties, 5. Miles railroad, 223. State elections first Wednesday in April. Elects 72 representatives, 37 senators, 2 congressmen and 4 presidential electors. Legislature meets annually on last Tuesday in May, at Newport, and holds adjourned sessions annually at Providence. Terms of senators and representatives one year. Persons without property to the value of \$134 excluded from voting. Brown's University at Providence founded 1764. Common school system excellent. School age 5-15. Legal interest rate 6 per cent., by contract any rate. Population, census of 1900, 428,556. Area 1,247 sq. miles, or 799,080 acres. Length N. and S. 46 miles, width 40 miles. Narragansett bay divides the state unequally, the western and larger part extending N. from the ocean some 27 miles. The bay is 3 to 12 miles wide, and contains several islands, of which Aquidneck, Canonicut and Prudence are largest. Block Island, at the western entrance of the bay, also belongs to this state. Surface of state broken and hilly. Small rivers unfit for navigation are numerous, and afford valuable water powers. Chief rivers: Pawtucket and Pawtuxet, entering Narragansett Bay, and Pawcatuck, falling into Long Island Sound. The state contains numerous small lakes, some of great beauty. Scenery varied and pretty. Soil middling quality. Hay best crop. Potatoes, corn and oats are the next most important products. No forests. Dairying profitable. Land high-priced. No minerals mined. Climate, owing to nearness to sea, moderate. Average temperature—winter 24 to 42 deg., summer 44 to 74 deg. Rainfall 43 inches. Snow lies 60 to 100 days. Health good. **CHIEF INDUSTRIES.**—Manufacture of fabrics of cotton, flax, linen, wool, boots and shoes, rubber goods, metals, jewelry, etc., agriculture, dairying. Rhode Island, in proportion to size, is the largest manufacturing state in Union. **PRINCIPAL CITIES.**—Census of 1890.—Providence, capital and seaport, 175,797. Newport, capital, seaport finest in the world, and great pleasure resort. Brislol, seaport. Warren, seaport. Pawtucket, 39,231. Woonsocket, 28,204. Westerly, ...

Salaries of State Officers.

Governor, \$1,000; Lieutenant-Governor, \$500; Secretary of State, \$2,500; General Treasurer, \$2,500; State Auditor, Insurance Commissioner, \$2,500; Railroad Commissioner, \$500; Attorney General, \$2,500; Adjutant General, \$600; Commissioner Public Schools, \$2,500; Chief Justice, \$4,500; Four Associate Justices, \$4,000; Senators and Representatives, \$1 per day, mileage 8 cents; District Judge, \$3,500; Appraiser of Customs, \$3,000.

1 2 3 4 5



MAP OF
RHODE ISLAND

Blomgren Bros., Mgr's, Chicago

1 2 3 4 5

TEXAS.

"Lone Star State." Settled first by French under LaSalle 1685, was a part of Old Mexico. Independence declared Dec. 20, 1835. Houston inaugurated as president Oct. 1836. Independence of the republic recognized by United States March, 1837, by European powers 1839 and '40. Continued wars with Mexico, embarrassed finances. Proposition for union with United States 1845, and admitted as a state Dec. 29. State paid \$10,000,000 by United States for all lands outside present limits 1850. Seceded Feb. 1861. Houston, who refused to secede, deposed. Military operations small. Last battle of the war near Rio Grande May 12, 1865. Re-entered Union 1870. Number counties 224, miles of railroad 9,650. All elections Tuesday after first Monday in Nov., number of senators and representatives 159, sessions of legislature biennial in odd numbered-years, meeting second Tues. in Jan., holds 60 days, term of senators 4 years, of representatives 2 years. Number electoral votes 15, congressmen 13. United States army, lunatics, idiots, paupers and convicts excluded from voting. Number colleges 10, school age 8-14. School endowment enormous, includes 23,470,377 acres yet unsold. Legal interest 8 per cent, by contract 12 per cent, usury forfeits entire interest. POPULATION, census of 1900—3,048,710. TOPOGRAPHY, AREA, SOIL, PRODUCTS, ETC.—Extreme length E. and W. 830 miles, extreme width 750 miles, area 170,247,040 acres, largest of the states and territories. Coast line 412 miles, Galveston bay largest, has 13 feet of water 35 miles inland. Rio Grande (navigable 440 miles). Lands extremely fertile, except in the N. W., where water is scarce. Lands on Rio Grande and at south require irrigation for good results, although crops will grow to some extent without. Entire state covered with rich grasses, affording pasture the year round. All cereals, root crops, vegetables, fruit and stocks flourish. Cotton best crop. Other staples, sugar, molasses, sweet potatoes, corn, wheat, grapes and fruits. Dairying extensive. Cattle, sheep, goat and hog raising on mammoth scale. Cotton picking July to Dec., corn planting middle of Feb., grain harvest May, corn harvest July. Ranks first in cattle and cotton, second in sugar, sheep, mules and horses. Coal area 6,000 sq. miles, quality good. Iron ore and salt deposits extensive. Other minerals found but extent unknown. Improved land averages \$8, and unimproved \$3 to \$4 per acre. Uncultivated and timber land seven-eighths of area, timber area one-fourth. CLIMATE varies, temperate at North, semi-tropical at south. Health everywhere most excellent. Thermometer ranges from 35 to 98 deg., but seldom rises to the latter temperature. At Austin averages winter 56 deg., summer 80 deg. Rainfall averages at Austin 35 inches, increases on coast and to the south, decreases to 13 inches in N. W. CHIEF CITIES, Census of 1900—San Antonio, 53,321; Dallas, 42,638; Galveston, 37,789; Fort Worth, 28,688; Houston, 44,633.



MAP OF
TEXAS



UTAH.

Settled 1848 at Salt Lake by Mormons from Illinois, March, 1849, state of "Deseret" organized. Congress refused to receive constitution adopted. Utah territory organized Sept., 1850. Trouble with government till 1858 Federal officers driven from territory 1856.

The Territory of Utah became, by proclamation of President Cleveland, the Forty-fifth State of the Union at 10:00 a. m., January 4th, 1896.

The prominent features of the Constitution of the new State are the following:

1. No union of state and church. 2. No church shall dominate the state, or interfere with its functions 3. No inhabitant of the state shall ever be molested in person or property on account of his or her mode of religious worship. 4. Polygamous or plural marriages are forever prohibited. 5. The penalties imposed under previous territorial laws for polygamy are re-enacted in the new Constitution.

Number counties 27, miles railroad 1,417. Elections annual, first Monday in August. Number senators and representatives 63, sessions of legislature biennial, in odd-numbered years, meeting second Monday in Jan., holds 60 days. Terms of senators and representatives 2 years each. School system fair, school age 6-18 years, number colleges 1. Legal interest 10 per cent., by contract any rate.

Population, census of 1900, 276,749.

Average length 350 miles, width 260 miles, area 84,928 miles, 54,353,920 acres. Surface rugged and broken with some rich valleys. Traversed by Wahsatch, Uintah, Roan, Little, Sierra Lasal, Sierra Abajo, San Juan, Sierra Panoches, and Tusoar mountains. Southeast portion elevated plateaux, western portion disconnected ridges. Great Salt Lake is 130 sq. miles in area. In N. W. a large area of desert land. Soil in valleys very productive. Yield fine crops of cereals and vegetables. Wheat best crop. Fruits successful. Grazing important interest. Dairying profitable and interest is growing rapidly. Forests sufficient for home purposes. Gold, copper and silver in Wahsatch mountains. Silver predominates. Coal in valley of Weber River. Salt found in large deposits, and the lake supply inexhaustible. State ranks third in silver.

Climate mild and healthy. Warmer W. of Wahsatch mountains. Summers dry and hot in S. W. Rainfall averages 16 inches at S. and 17 at N. chiefly in Oct. and April. Spring opens in April. Cold weather begins late in Nov. In mountains winters severe and snows heavy. Temperature at Salt Lake averages, winter 35 deg., summer 75 deg.

CHIEF CITIES, Census of 1900—Salt Lake City, capital, 53,531; Ogden, .. .; Provo City, .. .; Logan, .. .

LEADING INDUSTRIES.—Mining, stock raising and agriculture.

Cave Dwellings

WASHINGTON.

Named for George Washington. First settlement 1845, preceded, however, by Hudson Bay Co.'s trading posts. Organized as territory 1853, and admitted to the Union Nov. 11, 1889. First legislature assembled at Olympia February, 1854. Indian wars 1855 and 1858. Gold discovered 1855. Island San Juan in dispute between United States and England 1857. Rights of the Hudson Bay and Puget Sound Co.'s purchased. Number counties 34. Miles railroad 2,829. All elections Tuesday after first Monday in Nov. Number senators 34, representatives 78, sessions of legislature biennial in odd-numbered years, meeting first Monday in October. Terms of senators and representatives 2 years each. Number colleges 2, school age 4-21 years, school endowment reserve large. Legal interest 10 per cent., by contract any rate.

Population, census of 1900—518,103.

Topography. Area, Soil, Products, Etc.—Extreme length E. and W. 341 miles, width 242 miles, area 70,574 square miles, 45-169,360 acres. Coast line 200 miles. Columbia river navigable 175 miles. Excellent harbors in Puget Sound, Admiralty Inlet and Hood's canal. Scenery, especially on Columbia, grand. Columbia river current overcomes tide at the mouth, and water in the bar drinkable. Cereals flourish but corn not successful. Wheat, oats, hops, fruit of temperate climates, except peaches, are staple. Grazing region entire section east of Cascades, covered with inexhaustible supply of bunch grass. Stock raising and dairying growing industries. Lumber resources unsurpassed. Coal on Bellingham bay and at Seattle, area of coal-bearing strata 20,000 sq. miles. Gold-bearing quartz and silver lodes in Cascade and Coast ranges. Copper, cinnabar, lead and other minerals are found.

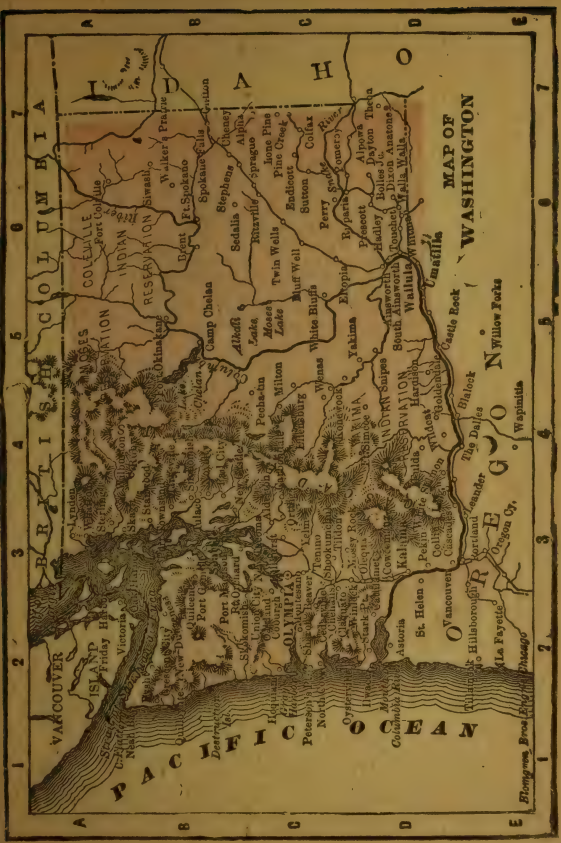
Climate—On coast dry season April to November, rest of year rainy. Rainfall averages at north 96 inches, for entire section 54 inches. Winters mild, little snow or ice. Summers cool with sea breezes. Temperature averages winter 39 deg., summer 61 deg., ranges 30 deg. to 90 deg. Eastern section dry, rainfall 10 inches.

Chief Cities—Census of 1900: Seattle, 80,671; Tacoma, 37,714; Spokane, 36,848.

Leading Industries—Agriculture, lumbering, grazing, mining, etc.

SALARIES OF STATE OFFICERS.

Governor \$4,000, Secretary \$1,800, Treasurer \$1,200, Auditor \$1,200, Superintendent of Public Instruction \$1,000, Librarian \$400, Chief Justice \$3,000, three Associate Justices \$3,000, Senators and Representatives \$4 a day and 20 cents mileage, Surveyor General \$2,500, Chief Clerk \$1,800, Chief Draftsman \$1,700.



**MAP OF
WASHINGTON**

Alongman, Bros. Eng. Chicago

WISCONSIN.

"Badger State." Settled first by French at Green Bay, 1669. Formed part of northwest territory. Included in Indiana territory, 1800. Became part of Michigan territory, 1805. Wisconsin territory organized 1836. Present boundaries fixed 1838. Madison made capital 1838. Admitted as state May 1848. Seventeenth state to join Union. Number Union soldiers furnished 91,327. Number counties 70. Miles railroad 6,398. All elections Tuesday after first Monday in Nov. Number senators 33, representatives 100, sessions biennial in odd-numbered years, meeting second Wednesday in Jan., term of senators 4 years, of representatives 2 years. Number electoral votes 12, number congressmen 10; insane, idiots, convicts, bribers, betters and duellists excluded from voting. Number colleges 7, number public schools 6,588, school age 4-20 years. Legal interest 7 per cent, by contract 10 per cent, usury forfeits entire interest.

Population, census of 1900, 2,069,042.

Topography, Area, Soil, Products, Etc.—Extreme length N. and S. 298 miles, width, 260 miles, area 65,805 sq. miles, 42,115,200 acres. Besides the great lakes Michigan and Superior the state contains Green Bay, Winnebago, Geneva, Devil's lake and innumerable other lakes in the central and northern sections of the state, of unsurpassed beauty, making the state a favorite place of summer resort. Much of state prairie, but enormous stretches of magnificent pine and hardwood timbers remain untouched. Soil excellent and adapted to farming, dairying and stock raising. Fruits grow and berries are a fine crop. Cranberries largely raised. Wheat the best crop, flax, buckwheat, hay, corn, oats, staples. Extensive lead mines in Grant, Lafayette and Iowa counties, native copper in the north, in Crawford and Iowa counties. Iron ores in Dodge, Sank, Jackson and Ashland counties. Ranks second in hops, third in barley and potatoes, fourth in rye and buckwheat, fifth in oats and agricultural implements. Improved land averages \$18 and unimproved \$10 per acre. Much government and railroad land yet untaken.

Climate—Temperature averages winter 20 deg., summer 71 deg., ranges from 32 deg. below zero to 95 deg. Rainfall 31 inches, including snow. Snows heavy, especially at north; spring late, summers short, falls pleasant. Milwaukee river frozen over an average of 105 days in year.

Chief Cities—Census of 1900: Milwaukee, port of entry, great pork-packing and beer-brewing center, grain and wheat market, 285,315; Madison capital, ...; Eau Claire, ...; Fond du Lac, ...; Oshkosh, 28,284; La Crosse, 28,875; Racine, 29,102; Superior, 31,091; Sheboygan, ...; Janesville, ...

Leading Industries—Lumbering, farming, mining, manufacturing, brewing, pork packing, dairying, etc.

MAP OF WISCONSIN

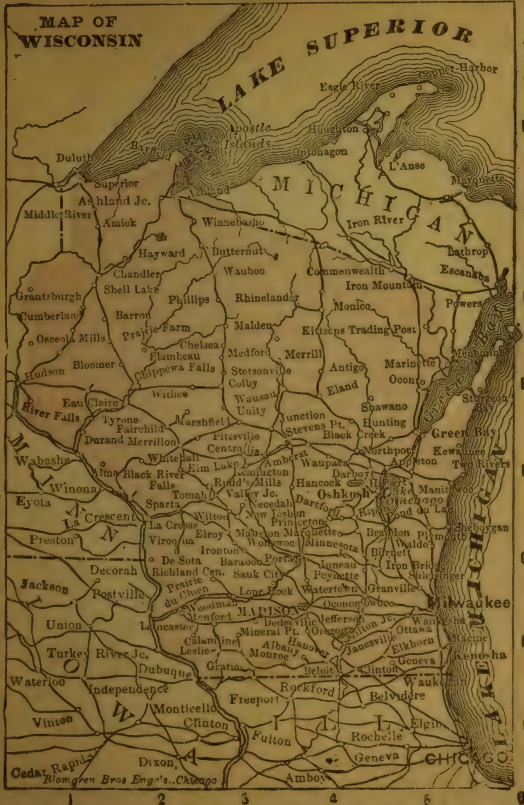
LAKE SUPERIOR

MICHIGAN

MICHIGAN

MILWAUKEE

CHICAGO



Blomgren Bros Eng'rs..Chicago

WYOMING.

First settlement, Ft. Laramie, 1867. Organized as a territory in 1868, and admitted to the Union July 8, 1890. Counties, 13. All elections Tuesday after first Monday in Nov., number senators 19, representatives 38, sessions biennial, in even-numbered years, meeting second Tuesday in Jan., hold 60 days. terms of senators and representatives 2 years each. Good school system, school age 7-21. Legal interest rate 12 per cent., by contract any rate. Miles of railroad, 1179.

POPULATION.—Census of 1900, 92,531.

Length 350 miles, width 275 miles, area 97,878 sq. miles, 62 641,920 acres. Surface traversed by Rocky Mts., forming the continental divide, and is high and mountainous, varying in elevation from 4,800 to 12,000 feet. At the N. W. is the Yellowstone National Park, 3,600 sq. miles in area, and one of the greatest natural wonders of the continent. It varies from 6,000 to over 12,000 feet in elevation, and its scenery is one vast panorama. Along the streams and in the valleys are tracts of arable lands which may be made to produce prolifically with irrigation. Mountains, covered with forests of considerable extent, contain precious and base metals in great deposits. Soil, where water can be had, is good; soil chiefly suited to grazing: Half the territory grazing land. Wheat, rye, oats and barley flourish, frost too frequent for corn. Water plentiful, game and fur-bearing animals numerous, iron ore abundant, mainly red hematite. Copper, lead, plumbago and petroleum found, gold in the Sweetwater country and near Laramie City, valuable deposits of soda in valley of the Sweetwater. Coal abundant and of good quality at Evanston, Carbon, Rock Springs and other points. Climate cold, severe in mountains, milder in valleys. Healthful, air pure, dry and bracing. Rainfall, 15 inches. Temperature averages, summer 66 deg., winter 18 deg., ranges from 31 deg. below to 80 deg. above. July warmest month, January coldest, latter averages 10 deg.

CHIEF CITIES.—Cheyenne, (capital), pop. Laramie City, pop.

CHIEF INDUSTRIES.—Grazing, mining and agriculture, but little is done in manufacturing.

Salaries of State Officers.

Governor.....	\$2,500
Secretary.....	1,800
Treasurer.....	\$800 and com.
Auditor.....	1,000
Superintendent of Public Inst.....	400
Librarian.....	400
Chief Justice.....	3,000
Two Associate Justices.....	3,000
Senators and Representatives.....	\$4 a day and 20 cents mileage



DISTRICT OF COLUMBIA.

Named for Columbus. Fixed as seat of U. S. government 1790 by act of Congress. Formed out of Washington Co., Md. (64 sq. miles). Government removed to District 1800. Captured by British 1814, and capitol, executive mansion and congressional library burned. Governed by Congress till 1871, when a legislative body of 33 (11 appointed by the president and 22 elected) was created. Executive officers still appointed by president. Officers appointed are paid by the United States, those elected by the District. Citizens of District have no vote for national officers. Schools superior. Legal interest 6 per cent, by contract 10, more forfeits entire interest. Population, 1900, 278,718. Miles railroad, 29. Surface made up of flats and hills. Similar in all features and products to Southern Maryland. Cities.—Washington (capital U. S.), pop. 218,196, Georgetown, pop. 14,540.

THE WHITE HOUSE AT WASHINGTON, D. C.

The White House, at Washington, D. C. is 170 feet long by 88 feet wide. The largest apartment, known as the east room, is 80 by 40 feet in dimension and 22 feet high. The adjoining blue room, finished in blue and gold, is devoted to receptions, diplomatic and social. The green and red rooms, so called from their finishing, are each 30 by 20 feet. The rooms on the second floor are occupied by the executive office and the apartments of the President's family.

THE WASHINGTON MONUMENT.

The corner-stone was laid by President Polk, July 4th, 1848, and December 6, 1884, the cap-stone was set in position. The foundations are 126½ feet square and 36 feet 8 inches deep. The base of the monument is 55 feet 1½ inches square, and the walls 15 feet ¼ inch thick. At the 500 foot mark, where the pyramidal top begins, the shaft is 34 feet 5½ inches square and the walls are 18 inches thick. The monument is made of blocks of marble two feet thick, and it is said there are over 18,000 of them. The height above the ground is 555 feet. The pyramidal top terminates in an aluminum tip, which is 9 inches high and weighs 100 ounces. The mean pressure of the monument is 5 tons per square foot, and the total weight, foundation and all, is nearly 81,000 tons. The door at the base, facing the capitol, is 8 feet wide and 16 feet high, and enters a room 25 feet square. An immense iron framework supports the machinery of the elevator, which is hoisted with steel wire ropes two inches thick. At one side begin the stairs, of which there are fifty flights, containing eighteen steps each. Five hundred and twenty feet from the base there are eight windows, 18x24 inches, two on each face. The area at the base of the pyramidal top is 1,187¼ feet, space enough for a six-room house, each room to be 12x16 feet. The Cologne Cathedral is 525 feet high; the pyramid of Cheops, 486; Strasburg Cathedral, 474; St. Peter's, at Rome, 448; the capitol at Washington, 306, and Bunker Hill monument, 221 feet. The Washington monument is the highest monument in the world; total cost, \$1,500,000.

LIQUID FUEL IN STEAMERS.

The steamship *Cowrie* of the Shell Transport and Trading Company (British), which recently discharged a cargo of oil in the Thames, has steamed all the way from Borneo to London—9,250 miles—using nothing but liquid fuel: and the boilers for supplying the steam for the pumps discharging the cargo were fired by the same material. The oil is not burned by a thin layer of incandescent coal, as is the case in some systems, but is pulverized or reduced to spray by means of a steam jet at the furnace door, where it is delivered from furnace tanks above the boilers. The *Cowrie* was formerly fired with coal, and her conversion to liquid fuel has been attended with advantageous results. Her complement of stokers has been reduced to six, as against sixteen, necessary with coal, and her speed has, at the same time, been slightly improved. Moreover, the change has effected an important saving in bunker space, for her consumption of oil on this voyage was only 22 tons a day, whereas her daily consumption of coal used to be 35 tons, and a ton of oil is calculated to only 34 cubic feet, against 45 feet required for coal. Oil, too, can be carried in the water-ballast tanks, and can also be taken on board much more quickly than coal—on a recent occasion 300 tons were pumped into a German steamer in one hour.

THE ARMENIAN MASSACRES.

Armenia, formerly a homogenous, independent kingdom of Western Asia, is now divided between three powers, Turkey, Russia and Persia. Its inhabitants, who all belong to the Christian Armenian Church but not in communion with either the Greek orthodox or the Roman Catholic Church, have preserved their own language and literature, and are found all over the East among the foremost business and professional men. Their Christian creed however has caused constant uprisings against them on the part of their neighbors, the Kurds, a confederation of fanatic tribes of a peculiar Mahometan sect. The Turkish authorities have proved powerless to prevent these periodical raids, and are now held responsible for them. American missions possessing large interests all over the country, the United States Congress called for the intervention of our executive to protect them from maltreatment and reimburse them for losses already incurred. The jealousy of Western powers—Great Britain, France, Russia, etc.—render any durable pacification of the country an almost impossible task.

VENEZUELA.

THE BOUNDARY CONTROVERSY.

No document has issued from the White House at Washington, since Lincoln's famous Proclamation of Emancipation of September, 1862, that has created such world-wide interest as the message sent to Congress by President Cleveland on the 17th of December, 1895, calling attention to the controversy between Great Britain and the Republic of Venezuela concerning the boundary lines dividing Venezuelan and British territory. The British claims concerning the extent of the colony of British Guiana are resented by the Republic of Venezuela. As a matter of fact the boundary lines of this Republic have never been definitely fixed. The total area claimed by Venezuela is 632,807 square miles, but of this only 439,000 square miles are actually under Venezuelan administration.

Taking his stand firmly on the Monroe Doctrine as a recognized element of International law, the President has asked the British Government to submit the whole matter to arbitration. This being refused, the United States Government unanimously passed a bill on the 20th of December, 1895, authorizing the President to appoint a commission to "Investigate and report on the true divisional line between the Republic of Venezuela and British Guiana."

The bill based on the President's Message passed the house and the senate in about forty-eight hours. Never was a law passed so rapidly nor supported with such enthusiastic patriotism.

\$100,000 was appropriated for the expenses of said commission.

The Commission thus appointed consisted of David J. Brewer, Richard H. Alvey, Andrew D. White, Frederic Coudert, Daniel C. Gilmore.

Venezuela has a delightful climate and is a realm of matchless tropical beauty. Its palms and ferns are of gigantic growth. Its chief crops are manioc and maize. It exports coffee, cocoa, tobacco and cotton. Its mines are rich in gold, copper, phosphates and coal. The Republic is divided into eight states, eight federal territories, the federal district, and two national colonies. Its population, according to the last census, was 2,198,820.

There are two universities, one at Caracas, and the other at Merida. There are nineteen federal colleges. The standing army consists of 2,800 men. Every male subject between eighteen and forty-five must be enrolled in the militia. The Roman Catholic is the religion of the state, but liberty of worship is guaranteed by law. The

constitution is modeled after that of the United States. There is a President, assisted by eight ministers and a federal council. There are two houses of legislature, which constitute the congress, a senate of twenty-four members, and a chamber of deputies, of fifty-two members. The members of the chamber of deputies, one for every 35,000 inhabitants, and one more for an excess of 15,000, are elected every four years, directly by the electors of the states and the federal district, those of the senate by the legislative bodies of the different states, three for each. The congress elects the members of the federal council, the federal council elects the President. The federal council and the President remain in office for two years.

The coast of Venezuela is said to have been the first land sighted by Columbus, who during his third voyage in 1498, entered the gulf of Paria, and sailed along the coast of the delta of Orinoco. In 1550 the territory was erected into the Captain-Generaley of Caracas, and remained under Spanish rule till 1810. Then followed a ten years' war under the leadership of the redoubtable Bolivar a native of Caracas, who was the soul and inspiration of the revolt. The Independence of Venezuela was recognized by Spain in the treaty of Madrid, March 30, 1845. Affairs were in an unsettled state for many years. On March 28, 1864, a federal constitution was drawn up for the republic. In December 1870, Don Guzman Blanco, who had proved himself to be a statesman of remarkable ability was declared Provisional President. It was not, however, until February 20, 1874, that Blanco assumed the dignity and authority of Constitutional President. He was elected to this office for a term of four years. Then came days of peace and prosperity for Venezuela.

THE VENEZUELAN AWARD.

The Anglo-Venezuelan Boundary Commission, after a session at Paris, France, beginning June 15, 1899, on October 3, 1899, rendered its award by unanimous agreement and both Great Britain and Venezuela accepted the decision. The arbitrators were Chief Justice Fuller, Associate Justice Brewer, Lord Chief Justice Russell of Killowen, Sir Richard Henn Collins and Professor Martens. Ex-President Harrison, General B. F. Tracy, M. Mallet-Provost and the Marquis of Rojas were counsel for Venezuela, and Attorney-General Sir Richard Webster and Sir Robert Reed for Great Britain.

NEW U. S. TARIFF LAW

Enacted July 24, 1897

Compared With the McKinley (1890) and Wilson
(1894) Tariffs.

The Tariff Bill, known generally as the "Dingley Bill," became a law by signature of the President at 4:06 p. m. on July 24, 1897. It was in force as to the collection of customs duties from 12:01 a. m. on the same day.

It was just one hour from the conclusion of the roll call in the Senate that the President placed his signature to the bill. In those sixty minutes the bill over which Congress worked for more than four months went to the House to be signed in open session by Speaker Reed, thence back to the Senate for the signature of Vice-President Hobart, and thence to the White House, where it was signed by President McKinley.

It had taken Congress exactly four months and nine days to prepare and enact this most complicate piece of legal machinery called a Tariff Law. To the energy and constant vigilance of Speaker Reed is due a great part of the credit for this unequalled legislative achievement. President Cleveland was inaugurated March 4, 1893, and it was only in October, 1894, that the Wilson Tariff Bill became a law without the President's signature.

Schedule A—Chemicals, Oils, and Paints.

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
Acids—			
Acetic, not exceeding specific gravity 1.047.....	$\frac{3}{4}$ c lb	20 p c	$1\frac{1}{2}$ c
Exceeding that....	2c	20 p c	4c
Boracic.....	5c	3c	3c
Chromic.....	5c	4c	6c
Lactic.....	5c	20 p c	20 p c
Citric.....	7c	25 p c	10c
Salicylic.....	10c	20 p c	20 p c
Sulphuric.....	$\frac{1}{4}$ c	Free	$\frac{1}{4}$ c

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
Tannic	50c	60c	75c
Gallic	10c	20 p c	20 p c
Tartaric	7c	20 p c	10c
All other acids.....	25 p c	.....	.....
All alcoholic perfumery and toilet preparations containing alcohol, and alcoholic com- pounds not provided for.....	60c & 45 p c	\$2 gal & 50 p c	\$2 gal & 25 p c
Alkalies, alkaloids, distilled, essential, expressed and ren- dered oils, and combinations of them, and chemical com- pounds not otherwise provid- ed for	25 p c	20 p c	20 p c
Alumina.....	6-10c	4-10c	6-10c
Alum, alum cake, etc.....	$\frac{1}{2}$ c	4-10c	6-10c
Ammonia, carbonate of.....	1 $\frac{1}{2}$ c	20 p c	1 $\frac{3}{4}$ c
Muriate of.....	$\frac{3}{4}$ c	10 p c	$\frac{3}{4}$ c
Sulphate of.....	3-10c	20 p c	$\frac{1}{2}$ c
Argols containing not more than 40 pc bitartrate of potash	1c	Free	Free
Containing more than 40 p. c..	1 $\frac{1}{2}$ c	Free	Free
Partly refined, containing not more than 90 p. c.....	4c	20 p c	4c
Containing more than 90 p. c..	5c	20 p c	4c
Rochelle salts.....	4c	2c	3c
Cream of tartar.....	6c	20 p c	6c
Blackening	25 p c	20 p c	25 p c
Bleaching powder.....	1-5c	.....	.....
Blue vitriol.....	$\frac{1}{2}$ c	Free	2c
Bone char, suitable for decol- orizing sugars.....	20 p c	20 p c	25 p c
Borax	5c	5c	3c
Borates of lime containing more than 36 p. c. of anhydrous boracic acid	4c	1 $\frac{1}{2}$ c	3c
Not more than 36 p. c.....	3c	1 $\frac{1}{2}$ c	3c
Camphor, refined.....	6c	10 p c	4c
Chalk (not medicinal or toilet) precipitated or prepared in cubes, blocks, or sticks, in- cluding tailors', billiard, red, or French	1c	.....	.....
Other chalk	25 p c	.....	.....
Chloroform	20c	25c	25c
Coal tar dyes, not provided for.	30 p c	25 p c	35 p c
Other products of coal tar.....	20 p c	Free	20 p c

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
Cobalt, oxide of.....	25 p c	25 p c	30 p c
Collodion.....	50c	40c	50c
Rolled in sheets.....	60c	50c	60c
Manufactured.....	65c & 25 p c	45 p c	60c & 25 p c
Coloring for brandy, etc.....	50 p c	50 p c	50 p c
Copperas.....	$\frac{1}{4}$ c	Free	3-10c
Drugs, such as barks, beans, buds, dried insects, gum, nuts, advanced in value, not provided for.....	$\frac{1}{4}$ c & 10 p c	10 p c	10 p c
Ethers—			
Sulphuric, per lb.....	40c	40c	40c
Spirits of nitrous.....	25c	25c	25c
Fruit ethers, oils, or essences..	\$2	\$2	\$2.50
Ethers not provided for.....	\$1	\$1	\$1
None shall pay less than • 25 p. c.			
Extracts and decoctions of log- wood, etc., not provided for.	$\frac{7}{8}$ c	10 p c	$\frac{7}{8}$ c
Extracts of quebracho and hemlock bark.....	$\frac{1}{2}$ c	10 p c	$\frac{7}{8}$ c
Extracts of sumac and of woods other than dye woods, not provided for.....	$\frac{5}{8}$ c	10 p c	$\frac{5}{8}$ c
Gelatine, glue, etc., valued not above 10c. lb.....	2 $\frac{1}{2}$ c	25 p c	1 $\frac{1}{2}$ c
Valued above 10c. and not above 35c. lb.....	25 p c	25 p c	30c
Valued above 35c. lb.....	15c & 20 p c	25 p c	30c
Glycerine crude.....	1c	1c	1 $\frac{1}{4}$ c
Glycerine, refined.....	3c	3c	4 $\frac{1}{2}$ c
Indigo, extracts or paste.....	$\frac{3}{4}$ c	Free	$\frac{3}{4}$ c
Indigo, carmined.....	10c	Free	10c
Ink and ink powders.....	25 p c	25 p c	30 p c
Iodine, resublimed.....	20c	Free	50c
Iodoform.....	\$1	\$1	\$1.50
Licorice.....	4 $\frac{1}{2}$ c	5c	5 $\frac{1}{2}$ c
Chicle.....	10c	Free	Free
Magnesia, carbonate of, medi- cinal.....	3c	3c	4c
Calcined, medicinal.....	7c	7c	8c
Sulphate, epsom salts.....	1-5c	1-5c	3-10c

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
Oils—			
Alizarin, etc., liquid or solid, where 50 per cent. castor oil is used.....	30c gal	30 p c	30 p c
Less than 50 per cent. castor oil used.....	15c	30 p c	40c
All other alizarin not provided for.....	30 p c	30 p c	30 p c
Castor oil.....	35c gal	35c	80c
Cod liver oil.....	15c	20 p c	15c
Cottonseed oil.....	4c	Free	10c
Croton oil.....	20c lb	Free	30c
Flaxseed.....	20c gal	20c	32c
Fusel oil.....	$\frac{1}{4}$ c lb	10 p c	10 p c
Hempseed and rapeseed oil... Olive oil not provided for.....	10c gal 40c	10c 35c	10c 35c
Packed in bottles, jars, etc....	50c	35c	35c
Peppermint oil.....	50c lb	25 p c	8c
Seal, herring, and other fish oil	8c gal	25 p c	40 p c
Opium, crude, containing 9 per cent. of morphia.....	\$1 lb	Free	Free
Morphine and all salts of opium	\$1 oz	50c	50c
Aqueous extracts of opium not provided for.....	40 p c	20 p c	40 p c
Opium containing less than 9 per cent. of morphia, and opium prepaid for smoking..	\$8 lb	\$6	\$12
Paints, Colors, & Varnishes—			
Baryta, sulphate of, including barytes earth, unmanufac- tured.....	75c ton	\$1.12	Free
Manufactured.....	\$5.25	\$3	\$6.72
Blues, such as Berlin, etc., con- taining ferrocyanide of iron, in pulp, dry or ground in oil.	8c lb	6c	6c
Blanc-fixe.....	$\frac{1}{2}$ c	25 p c	$\frac{3}{4}$ c
Black, from bone, ivory or veg- etable, dry or ground in oil or water.....	25 p c	20 p c	25 p c
Chrome yellow, green, etc., dry or mixed with oil or water...	4 $\frac{1}{2}$ c	3c	4 $\frac{1}{2}$ c
Ochre, sienna, umber, crude, not powdered or washed....	$\frac{1}{8}$ c	Free	$\frac{1}{4}$ c
Powdered or washed.....	$\frac{3}{8}$ c	Free	$\frac{1}{4}$ c
Ground in oil or water.....	1 $\frac{1}{2}$ c	1 $\frac{1}{4}$ c	1 $\frac{1}{2}$ c
Orange mineral.....	3 $\frac{3}{8}$ c	1 $\frac{3}{4}$ c	3 $\frac{3}{8}$ c
Red lead.....	2 $\frac{7}{8}$ c	1 $\frac{1}{2}$ c	3c

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
Ultra-marine blue and wash blue containing ultra-marine	3¾c	3c	4½c
Varnishes, including gold size.	35 p c	25 p c	35 p c
Spirit varnishes.....	\$1.32 gal and 35 p c	\$1.32 & add for alcohol	\$1.32 & add for alcohol
Vermilion red and other colors containing quicksilver	10c lb	20 p c	12c
Not containing quicksilver....	5c	6c	20 p c
White lead and other pigment containing lead.....	2⅞c	1½c	3c
Whiting and Paris white, dry.	¼c	¼c	½c
Ground in oil or putty	1c	¾c	1c
Zinc oxide of, or pigment, con- taining zinc, but not lead, dry	1c	1c	¼c
Ground in oil.....	1¾c	1c	¼c
Sulphide of, or white sulphide of zinc.....	1¾c	25 p c	25 p c
Chloride and sulphate of.....	1c	25 p c	25 p c
All paints and pigments, lakes, crayons, smalts, frostings, or crude, dry, or mixed, ground with water, oil, or other solu- tions not provided for; artists' paints in tubes, pans, or cakes	30 p c	¾c	1c
Paris green and London purple	15 p c	12½ p c	25 p c
Lead—			
Acetate of white.....	3¼c lb	2¾c lb	5½c lb
Brown, gray, or yellow.....	2¼c	1¾c	3½c
Nitrate of	2½c	1½c	3c
Litharge.....	2¾c	1¾c	3c
Phosphorus	18c	15c	20c
Potash—			
Bichromate and chromate of ..	3c	25 p c	3c
Caustic of, refined, in sticks or rolls.....	1c	Free	1c
Chlorate of.....	2½c	20 p c	20 p c
Hydriodate, iodide, iodate of..	25c	25 p c	50c
Nitrate of, refined	½c	¾c	1c
Prussiate of, red.....	8c	25 p c	10c
Yellow	4c	25 p c	5c
Cyanide of potassium.....	12½ p c	20 p c	20 p c
Preparations—			
Medicinal preparations con- taining alcohol, or in the preparation of which alcohol is used	55c lb	50c	50c
In no case to pay less than 25 p. c.			

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Medicinal preparations not containing alcohol, and alcohol not used in preparation	25 p c	25 p c	25 p c
Calomel and other mercurial preparations.....	35 p c	25 p c	25 p c
Plasters, healing or curative...	35 p c	25 p c	25 p c
Preparations for hair, mouth or skin, cosmetics, etc., in which alcohol is not used.....	50 p c	40 p c	50 p c
Santonin and salts thereof, containing 80 p. c. of santonin... Soap—	\$1.00 lb	\$1.00 lb	\$2.50 lb
Castile.....	1¼c	20 p c	1¼c
Fancy toilet and medicinal....	15c	35 p c	15c
All other soaps.	20 p c	10 p c	20 p c
Soda—			
Bicarbonate of, and alkalies containing 50 p. c. of bicarbonate	¾c	1½c	1c
Bichromate and chromate of soda.....	2c	25 p c	3c
Crystal carbonate of soda	3-10c	25 p c	25 p c
Chlorate of.....	2c	25 p c	25 p c
Hydrate of soda	¾c	½c	1c
Nitrite of.....	2½c	25 p c	25 p c
Sal soda, not concentrated	2-10c	⅙c	¼c
Hyposulphite and sulphide of.	½c	.....	.....
Soda ash	⅜c	¼c	¼c
Arseniate of soda.....	1¼c	25 p c	25 p c
Silicate of soda.....	½c	⅜c	½c
Sulphate of soda.....	\$1.25 ton	Free	\$1.25
Sea moss.....	10 p c	.....	.....
Sponges.....	20 p c	10 p c	20 p c
Manufactures sponges	40 p c	10 p c	20 p c
Strychnia and all salts thereof.	30c oz	30c	40c
Sulphur, refined or flowers of..	\$8 ton	20 p c	\$8 ton
Sumac, ground.....	3-10c lb	3-10c lb	.....
Vanilla.....	80c oz	25 p c	25 p c

Schedule B—Earths, Earthenware, and Glassware.

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Brick and Tile—			
Fire brick, weighing not more than 10 lbs. each, not glazed or decorated.....	\$1.25 ton	25 p c	\$1.25

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
Glazed or ornamented.....	45 p c	30 p c	45 p c
Brick, other than fire brick, not glazed or ornamented.....	25 p c	25 p c	45 p c
If glazed or ornamented.....	45 p c	30 p c	45 p c
Tiles, plain, one color, exceed- ing 2 sq. in. in size.....	4c s f	25 p c	25 p c
Glazed, ceramic, mosaic, orna- mented, and all earthenware tiles, valued at not more than 40c. sq. ft.....	8c s f	25 p c	25 p c
Exceeding 40c. sq. ft.....	10c s f & 25 p c	40 p c	45 p c
Cement, Lime and Plaster—			
Roman, Portland, and other hydraulic, in barrels, sacks, or packages.....	8c cwt	8c	8c
In bulk.....	7c	7c	7c
Other cement.....	20 p c	10 p c	20 p c
Lime.....	5c cwt	5c	6c
Plaster, rock, or gypsum, crude	50c ton	\$1.25	\$1.75
Ground or calcined.....	\$2.25	\$1.25	\$1.75
Pearl hardening.....	20 p c	\$1.50	\$1.75
Pumice stone, wholly or par- tially manufactured.....	\$6 ton	Free	Free
Unmanufactured.....	15 p c	Free	Free
Clays or Earths—			
Clays or earths, unwrought or unmanufactured.....	\$1 ton	\$1	\$1.50
Wrought or manufactured.....	\$2	\$2	\$3
China clay or kaolin.....	\$2.50	\$2	\$3
Limestone rock, asphalt, con- taining not more than 15 p. c. bitumen.....	50c ton	Free	Free
Asphaltum and bitumen, not provided for, crude, if not dried or advanced in any manner.....	\$1.50	Free	Free
Dried, or advanced in any man- ner.....	\$3 ton	Free	Free
Beauxite, crude.....	\$1	Free	Free
Fuller's earth, unwrought.....	\$1.50	\$1	\$1.50
Wrought.....	\$3	\$2	\$3
Earthenware and China—			
Common yellow and brown, plain, embossed, or glazed, not decorated.....	25 p c	20 p c	25 p c
Rockingham earthenware, not decorated.....	40 p c	30 p c	55 p c

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
China, porcelain, crockeryware, ornaments and toys, decor- ated or ornamented, includ- ing clock cases, with or with- out movements.....	60 p c	60 p c	60 p c
Plain white, without ornament	55 p c	35 p c	55 p c
All other china, porcelain, crockeryware, etc., in any way decorated or ornamented	60 p c	40 p c	60 p c
If not ornamented or decorated	55 p c	30 p c	55 p c
Articles wholly or in part of mineral substances, not dec- orated.....	35 p c	30 p c	55 p c
If decorated	45 p c	40 p c	60 p c
Gas retorts	\$3 each	20 p c	\$3
Lava tips	10c gross & 15 p c	30 p c	55 p c
Carbons for electric lighting ..	90c per 100	20 p c	20 p c
Filter tubes.....	45 p c	20 p c	20 p c
Porous carbon pots for electric batteries, without metallic connections.....	20 p c	20 p c	20 p c
Glass and Glassware—			
Plain green or colored, molded or pressed flint, lime or lead glass bottles, vials, jars, demi- johns, carboys, filled or un- filled, holding more than one pint.....	1c lb.	¾c	1c
Holding not more than one pint and not less than ¼ pint....	1½c	¾c	1½c
Holding less than ¼ pint....	50c gr'ss	40c	50c
None to pay less than.....	40 p c	.....	.....
Glass bottles, or other vessels of glass, in any way orna- mented or decorated, and porcelain and opal glassware	60 p c	40 p c	60 p c
Unpolished, cylinder, crown, and common window glass, not exceeding 10 by 15 inches square	1¾c lb.	1c	1¾c
Above that, and not exceeding 24 by 30 inches square	1¾c	.....	.....
Above that, and not exceeding 24 by 36 inches square.....	2¾c	1¾c	2¾c
Above that, and not exceeding 24 by 36 inches square.....	2¾c	2c	2¾c

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Not exceeding 30 by 40 inches square	3 $\frac{3}{8}$ c	2 $\frac{1}{8}$ c	3 $\frac{1}{8}$ c
Above that, not exceeding 40 by 60.....	3 $\frac{7}{8}$ c	2 $\frac{1}{8}$ c	3 $\frac{1}{8}$ c
Above that.....	4 $\frac{3}{8}$ c	2 $\frac{1}{8}$ c	3 $\frac{1}{8}$ c
Cylinder and crown glass, polished, not exceeding 16x24 inches square.....	4c s f	2 $\frac{1}{2}$ c	4c
Above that, and not exceeding 24x30 inches.....	6c	4c	6c
Above that, and not exceeding 24x60 inches.....	15c	15c	20c
Above that	20c	25c	40c
Fluted, rolled, or rough plate glass, or the same containing wire netting within itself, not including crown, cylinder, or common window glass, not exceeding 10x15 inches square	3 $\frac{1}{4}$ c	3 $\frac{1}{4}$ c	3 $\frac{1}{4}$ c
Above that, and not exceeding 16x24 inches.....	1c	1 $\frac{1}{2}$ c	2c
Above that, and not exceeding 24x30 inches.....	1 $\frac{1}{2}$ c	1 $\frac{1}{2}$ c	2c
All above that	2c	1 $\frac{1}{2}$ c	2c
All fluted, rolled, rough plate glass weighing over 100 lbs. per 100 square feet, shall pay an additional duty on the excess at the same herein imposed.			
Cast polished plate glass, unsilvered, not exceeding 16x24 inches square.....	8c	5c	5c
Above that, and not exceeding 24x30 inches square.....	12c	8c	8c
Above that, and not exceeding 24x60 inches square.....	22 $\frac{1}{2}$ c	22 $\frac{1}{2}$ c	25c
All above that.....	35c	35c	50c
Cast polished plate glass, silvered, and looking glass plates, exceeding in size 144 square inches, and not exceeding 16x24 inches square.	11c sq ft	6c	6c
Above that, and not exceeding 24x30 inches square.....	13c	8c	8c
Above that, and not exceeding 24x60 inches square.....	25c	22 $\frac{1}{2}$ c	25c
All above that.....	38c	35c	50c

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
No looking glass framed to pay less duty than when unframed, and shall pay additional duty applicable to frames.			
Cast polished plate glass, or common window glass, bent, obscured, beveled, etched, or otherwise ornamented or decorated.....	5 p c ad'tional	10 p c	10 p c
Spectacles, eye-glasses, goggles, and their frames, or parts, valued at or not over 40c per doz.....	20c doz & 15 p c	40 p c	60 p c
Valued at over 40c per doz and not over \$1.50 per doz.....	45c & 20 p c	40 p c	60 p c
Valued at over \$1.50 per doz ..	50 p c	40 p c	60 p c
Lenses of glass or pebble, ground and polished to a spherical, cylindrical, or prismatic form, and ground and polished plano or coquill glasses, wholly or partly manufactured, with the edges unground.....	45 p c	35 p c	60 p c
with the edges ground or beveled	10c & 45 p c	35 p c	60 p c
Strips of glass not more than three inches wide, ground or polished on one side or both sides to a cylindrical or prismatic form, and glass slides for magic lanterns	45 p c	25 p c	60 p c
Opera and field glasses, telescopes, microscopes, photographic and projecting lenses, other optical instruments, and frames or mountings for the same, not specially provided for.....	45 p c	40 p c	60 p c
Stained or painted glass windows, mirrors not exceeding in size 144 square inches, with or without frames or cases,			

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
and all glass (except broken) or manufactures of which glass or paste is the component material of chief value, not specially provided for...	45 p c	35 p c	45 p c
Fusible enamel.....	25 p c	25 p c	45 p c
Marble and Stone and Manufactures of—			
Marble, in block, rough or squared only.....	65c c f	50c	65c
Onyx, in block, rough or squared.....	\$1.50 c f	50c	65c
Marble or onyx, sawed or dressed, over two inches in thickness.....	\$1.10 c f	85c	\$1.10
Slabs or paving tiles of marble or onyx, containing not less than four superficial inches, if not more than one inch in thickness.....	12c su f	85c c f	\$1.10 c f
If more than one inch and not more than 1½ ins in thickness	15c	85c c f	\$1.10 c f
If more than 1½ inches and not more than two inches in thickness.....	18c	85c c f	\$1.10 c
If rubbed, in whole or part....	3c additional	.....	.....
Mosaic cubes of marble, onyx, or stone, not exceeding two cubic inches in size, if loose.	1c lb & 20 p c	85c c f	\$1.10 c f
If attached to paper or other material.....	20c su f & 35 p c	85c c f	\$1.10 c f
Manufactures of agate, alabaster, coral, marble, rock crystal, etc., not provided for, including clock cases, with or without movements.....	50 p c	45 p c	50 p c
Stone—			
Burr stones, manufactured or bound up into millstones....	15 p c	45 p c	50 p c
Freestone, granite, sandstone, limestone, and other building or monumental stone, except marble and onyx, unmanufactured or undressed, not specially provided for.....	12c c f	7c	11c

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Freestone, granite, sandstone, limestone, and other building or monumental stone, except marble and onyx, not specially proved for, hewn, dressed, or polished	50 p c	30 p c	40 p c
Grindstones, finished or unfinished	\$1.75 ton	10 p c	\$1.75
Slates, slate chimney pieces, mantels, slabs for tables, roofing slates, and all other manufactures of slate not specially provided for	20 p c	20 p c	30 p c

Schedule C—Metals and Manufactures of.

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Iron ore, including mangani-ferous iron ore, and dross from burnt pyrites	40c ton	40c ton	75c ton
Basic slag, ground or unground	\$1 ton	40c	75c
Iron in pigs, iron Kentledge, Spiegeleisen, ferro manganese, ferro silicon, wrought and cast scrap iron and scrap steel	\$4	\$4	3-10c lb
Bar iron, square iron, rolled or hammered, comprising flats, not less than 1 inch wide, nor less than $\frac{3}{8}$ in thickness, round iron, not less than 7-16 in diameter, ...	6-10c lb	6-10c	8-10c
Round iron, in coils or rods, less than 7-16 of an inch in diameter, and bars or shapes of rolled or hammered iron, not specially provided for..	8-10c	8-10c	11-10c
Provided, that all iron in slabs, blooms, loops, or other forms less finished than iron in bars, and more advanced than pig iron, except castings, shall be subject to a duty of	5-10c	5-10c	8-10c

ARTICLES.	Dingfey Law.	Wilson Law.	McKin- ley Law
Provided further, that all iron bars, blooms, billets or sizes or shapes of any kind, in the manufacture of which charcoal is used as a fuel, shall be subject to a duty of.....	\$12 ton	\$12	\$22
Beams, girders, joists, angles, channels, car truck channels, tees, columns, and posts or parts or sections of columns and posts, deck and bulb beams and building forms, together with all other structural shapes of iron or steel, whether plain or punched or fitted for use.....	5-10c lb	6-10c	9-10c
Boiler or other plate iron or steel, except crucible plate steel and saw plates, hereinafter provided for, not thinner than No. 10 wire gauge, sheared or unsheared, and skelp iron or steel, sheared or rolled in grooves, valued at 1c per pound or less.....	5-10c	5-10c	5-10c
Valued above 1c and not above 2c per pound.	6-10c	6-10c	8-10c
Valued above 2c and not above 4c per pound	1c	30 p c	15-10c
Valued at over 4c.....	25 p c	25 p c	2c
Iron or steel anchors or parts thereof.....	1½c lb	1½c	23-10c
Forgings of iron and steel of whatever shape or stage of manufacture	35 p c	35 p c	45 p c
Ball forgings of iron or steel..	45 p c	.....	.....
Hoop, band, or scroll iron or steel, valued at 3c per pound or less, 8 inches or less in width, and less than ¾ of 1 inch thick, and not thinner than No. 10 wire gauge.....	5-10c	30 p c	1c
Thinner than No. 10 wire gauge and not thinner than No. 20 wire gauge	6-10c	30 p c	11-10c
Thinner than No. 20 wire gauge	8-10c	30 p c	13-10c
Provided, that barrel hoops of iron or steel, and hoop or			

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
band iron, splayed or punched, shall pay more duty than that imposed on the hoop or band from which they are made.....	1-10c	.....	2-10c
Steel bands or strips, untempered, suitable for band saws	3c lb & 20 p c	.....	.....
If tempered.....	6c & 20 p c	.....	.....
Hoop iron or steel, wholly or partially manufactured into hoops, painted or not, with or without fastenings for baling	5-10c lb	.....	.....
Railway bars made of iron or steel and railway bars made in part of steel, T rails, and punched iron or steel flat rails	7-20c	30 p c	1 1-10c
Railway fish plates or splice bars, made of iron or steel...	4-10c	7-20c	6-10c
Sheets of iron or steel, common or black, of whatever dimensions, and skelp iron or steel, valued at 3c. per lb. or less, thinner than No. 10 and not thinner than No. 20 wire gauge.....	7-10c	7-10c	1c
Thinner than No. 20 wire gauge and not thinner than No. 25 wire gauge	8-10c	8-10c	1 1-10c
Thinner than No. 25 wire gauge and not thinner than No. 32 wire gauge	1 1-10c	1 1-10c	1 4-10c
Thinner than No. 32 wire gauge	1 2-10c	1 1-10c	1 4-10c
Corrugated or crimped.....	1 1-10c	1 1-10c	1 4-10c
Steel sheets or plates, and hoop or scroll iron or steel, not tin plates and taggers tin, galvanized or coated with metal, more than if not galvanized.	2-10c	.....	.....
Sheets of iron or sheet steel, polished, planished or glanced, by whatever name designated	2c	1 3/4c	2 1/4c
Provided, that plates or sheets of iron or steel, by whatever name designated, other than the polished, planished, or glanced herein provided for,			

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
which have been pickled or cleaned by acid or by any other material or process, or which are cold rolled, smoothed only, not polished, shall pay more duty than the corresponding gauges of common or black sheet iron or steel.....	2-10c	1/8c	1/4c
Sheets or plates of iron or steel or taggers iron or steel, coated with tin or lead, or with a mixture of which these metals or either of them is a component part, by the dipping or any other process, and commercially known as tin plates, terne plates, and taggers tin.....	1 1/2c	1 1-5c	2 2-10c
Steel ingots, cogged ingots, blooms, and slabs, by whatever process made; die blocks or blanks; billets, and bars, and tapers or beveled bars, mill shafting; pressed, sheared, or stamped shapes; saw plates wholly or partially manufactured; hammer molds or swaged steel; gun barrel molds not in bars; alloys used as substitutes for steel in the manufacture of tools; all descriptions and shapes of dry sand, loam, or iron molded steel castings; sheets and plates, and steel in all forms and shapes not specially provided for; all of the above valued at 1c per pound or less.....	3-10c	3-10c	4-10c
Valued above 1c and not above 1 4-10c per lb.....	4-10c	4-10c	4-10c
Valued above 1 4-10c and not above 1 8-10c lb.....	6-10c	6-10c	8-10c
Valued above 1 8-10c and not above 2 2-10c lb.....	7-10c	7-10c	9-10c
Valued above 2 2-10c and not above 3c lb.....	9-10c	9-10c	1 2-10c

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Valued above 3c and not above 4c lb	1 2-10c	1 2-10c	1 6-10c
Valued above 4c and not above 7c lb.....	1 3-10c	1 3-10c	2c
Valued above 7c and not above 10c lb	2c	1 9-10c	2 8-10c
Valued above 10c and not above 13c lb.....	2 4-10c	2 4-10c	3½c
Valued above 13c and not above 16c lb.....	2 8-10c	2 8-10c	4 2-10c
Valued above 16c per lb.....	4 7-10c	4 7-10c	7c
Wire—			
Wire, rods, rivet, screw, fence, and other iron or steel wire rods, whether round, oval, flat, or square, or in any other shape, and nail rods in coils or otherwise, valued at 4c or less per lb.....	4-10c	4-10c	6-10c
Valued over 4c.....	¾c	¾c	6-10c
If tempered, treated, or partially manufactured, an additional duty of.....	½c	.....	.....
Round iron or steel wire, not smaller than No. 13 wire gauge.....	1¼c	1¼c	1¼c
Smaller than No. 13, and not smaller than No. 16.....	1½c	1½c	1¾c
Smaller than No. 16.....	2c	2c	2¼c
Valued at more than 4c lb.....	40 p c	.....	.....
Iron, or steel, or other wire not provided for, including such as is known as hat, bonnet, crinoline, corset, needle, piano, clock, and watch wire, flat or otherwise; and corset clasps, steels and dress steels and sheet steel in strips .0025 of an inch thick or thinner, whether uncovered or covered with cotton, silk, metal, or other material, valued at more than 40c lb.....	45 p c	40 p c	50 p c
Provided, that articles manufactured from iron, steel, brass, or copper wire shall			

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
pay the rate of duty which would be imposed on the wire used, and in addition.....	1¼c lb		
And on iron or steel wire coated with zinc, tin, or other metal, in addition to duty on the wire.....	2-10c		½c
All metal produced from iron or its ores, which is cast and malleable, shall be classed as steel.			
No article wholly or partly of tin plate shall pay less duty than tinplate.			
All iron or steel, cold rolled, drawn, or hammered or polished, in addition.....	¼c		
On strips, plates, or sheets of iron or steel, other than polished or planished, treated in like manner, in addition ...	1c		
On steel circular saw plates, in addition to rates for steel saw plates.....	½c		
Manufacture of Iron and Steel—			
Anvils of iron or steel, or of iron and steel combined, by whatever process made, or in whatever stage of manufacture.....	1⅞c lb	1¾c	2½c
Axles or parts thereof, axle bars, axle blanks or forgings for axles, whether of iron or steel, without reference to the stage or state of manufacture, valued at not more than 6c lb.....	1c lb	1½c	2c
Blacksmiths' hammers and sledges, track tools, wedges, and crowbars, whether of iron or steel.....	1½c	1½c	2¼c
Bolts, with or without threads or nuts, or bolt blanks and finished hinges or hinge blanks, whether of iron or steel.....	1½c	1½c	2¼c

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Card clothing manufactured from tempered steel wire....	45c s f	40c	50c
All other.....	20c s f	40c	25c
Cast iron pipe of every description.....	4-10c lb	6-10c	8-10c
Cast iron vessels, plates, stove plates, andirons, sadirons, tailors' irons, hatters' irons and castings of iron not specially provided for.....	8-10c	8-10c	2 2-10c
Castings of malleable iron not specially provided for.....	9-10c	9-10c	1¼c
Cast hollow ware, coated, glazed or tinned.....	2c	2c	3c
Chain or chains of all kinds, made of iron or steel, not less than ¾ of an inch in diameter.....	1½c	30 p c	1 6-10c
Less than ¾ of an inch and not less than ⅝ inch in diameter.	1¾c	30 p c	1 8-10c
Less than ⅝ inch and not less than 5-16.....	1¾c	30 p c	2½c
Less than 5-16.....	3c	30 p c	2½c
Provided, no chain or chains of any description shall pay a lower rate of duty than.....	45 p c	30 p c	45 p c
Lap welded, butt welded, seamed or jointed, iron or steel boiler tubes, pipes, flues or stays, not thinner than No. 16 wire gauge.....	2c	25 p c	2½c
Welded cylindrical furnaces, made from plate metal.....	2½c	25 p c	2½c
All other iron or steel tubes, finished or unfinished, not provided for.....	35 p c	.....	.....
Cutlery—			
Penknives, pocket knives, claspknives, pruning knives, and budding knives of all kinds, erasers or parts thereof, wholly or partly manufactured, valued at not more than 40c per doz.....	40 p c	25 p c	12c doz
Valued at more than 40c and not exceeding 50c per doz. ..	1c each & 40 p c	25 p c	.....

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Valued at more than 50c and not exceeding \$1.25 per doz.	5c & 40 p c	25 p c	.....
Valued at more than \$1.25 and not exceeding \$3 per doz....	10c & 40 p c	7½c doz	\$2 doz
Valued at more than \$3 per doz.	20c & 40 p c	\$1.50 doz	\$2 doz & 50 p c
Razors and razor blades, finished or unfinished, valued at less than \$1.50 per doz....	50c doz & 15 p c	40 p c	\$1 doz & 30 p c
At \$1.50 per doz and less than \$3 per doz.....	\$1 & 15 p c	40 p c	\$1 doz & 30 p c
Valued at \$3 per doz or more..	\$1.75 doz & 20 p c	40 p c	\$1.75 doz & 30 p c
Scissors and shears, and blades of the same, finished or unfinished, valued at not more than 50c doz.....	15c & 15 p c	40 p c	45 p c
Valued at more than 50c and not more than \$1.75 per doz.	50c & 15 p c	45 p c	45 p c
Valued at more than \$1.75 per doz.....	75c & 25 p c	35 p c	35 p c
Swords, sword blades, and side arms.....	35 p c	35 p c	35 p c
Table, butchers', carving, cooks', hunting, kitchen, bread, butter, vegetable, fruit, cheese, plumbers', painters', palette, artists', and shoe knives, forks and steels, finished or unfinished, with handles of mother-of-pearl, shell or ivory	16c each & 15 p c	35 p c	\$1 doz & 35 p c
With handles of deer horn....	12c & 15 p c	.....	.....
With handles of hard rubber, solid horn, celluloid, or any pyroxyline material.....	5c & 15 p c	.....	.....
With handles of other material	1½c & 15 p c	.....	.....

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Files, file blanks, rasps, and floats of all cuts and kinds, 2½ ins. in length and under	30c doz	•35c	35c
Over 2½ inches and under 4½ inches in length	50c doz	60c	60c
Over 4½ and under 7 inches ..	75c	60c	60c
Seven ins. in length and over..	\$1	\$1	\$2
Firearms—			
Muskets, muzzle loading shotguns, rifles and parts thereof.	25 p c	25 p c	25 p c
Double barreled, sporting breech loading shotguns, combination shotguns and rifles valued at not more than \$5.....	\$1.50 & 15 p c	30 p c	\$1.50 & 35 p c
Valued at more than \$5 and not more than \$10.....	\$4 & 15 p c	30 p c	\$3 & 35 p c
Valued at more than \$10.....	\$6 & 35 p c	30 p c	\$6 & 35 p c
Double barrels for sporting breech loading shotguns and rifles, further advanced in manufacture than rough bored only	\$3 each 35 p c	30 p c	\$3 & 35 p c
Stocks for double barreled sporting breech loading shotguns and rifles, wholly or partially manufactured.....	\$3	30 p c	\$3 & 35 p c
On all other parts of such guns or rifles, and fittings for such stocks or barrels, finished or unfinished.....	50 p c	30 p c	35 p c
Provided, that all double barreled sporting breech-loading shotguns and rifles imported without a lock or locks or other fittings shall be subject to a duty of.....	\$6 & 35 p c	30 p c	\$6 & 35 p c
Single barrel breech loading shotguns, or parts thereof, excepting as otherwise specially provided for.....	\$1 & 35 p c	30 p c	\$1 & 35 p c

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Revolving pistols or parts thereof.....	75c & 25 p c	30 p c	40c & 35 p c
Sheets and plates, ware or articles of iron, steel, or other metal, enameled or glazed with vitreous glasses.....	40 p c	35 p c	45c & 50 p c
Nails, Spikes, Tacks and Needles—			
Cut nails and cut spikes of iron or steel.....	6-10c lb	22 ¹ / ₂ p c	1c
Horseshoe nails, hob-nails, and all other wrought iron or steel nails not specially provided for.....	2 ¹ / ₄ c	30 p c	4c
Wire nails made of wrought iron or steel not less than 1 inch in length and not lighter than No. 16 wire gauge.....	1 ² / ₂ c	25 p c	2c
Shorter than 1 inch and lighter than No. 16 wire gauge.....	1c	25 p c	4c
Spikes, nuts and washers, and horse, mule or ox shoes, of wrought iron or steel.....	1c	25 p c	1 ¹ / ₂ c
Cut tacks, brads, or sprigs, not exceeding 16 ounces to the 1,000.....	1 ¹ / ₄ c	25 p c	2 ¹ / ₄ c
Exceeding 16 ounces to the 1,000.....	1 ¹ / ₂ c	25 p c	2 ³ / ₄ c
Needles for knitting or sewing machines, including latch needles.....	\$1 M & 25 p c	25 p c	35 p c
Crochet needles and tape needles, knitting and all other needles not specially provided for, and bodkins of metal....	25 p c	25 p c	35 p c
Steel engraved, stereotype plates, electrotype plates, and plates of other materials, engraved or lithographed, for printing.....	25 p c	35 p c	25 p c
Rivets of iron or steel.....	2c lb	25 p c	2 ¹ / ₂ c
Saws—			
Crosscut saws, per linear foot..	6c	6c	8c
Mill saws, per linear foot.....	10c	10c	10c to 15c

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
Pit and drag saws, per linear foot	8c	8c	10c to 15c
Circular saws	25 p c	25 p c	30 p c
Steel band saws, finished or unfinished	10c lb & 20 p c	.....	.....
Hand, buck, and all other saws not specially provided for...	30 p c	25 p c	40 p c
Screws, commonly called wood screws, made of iron or steel, more than 2 inches in length	4c lb	3c	5c
Over 1 inch and not more than 2 inches in length	6c	5c	7c
Over $\frac{1}{2}$ inch and not more than 1 inch	8 $\frac{1}{2}$ c	7c	10c
One-half inch and less in length	12c	10c	14c
Umbrella and parasol ribs and stretchers, composed in chief value of iron, steel, or other metal	50 p c	50 p c	45 p c
Wheels or parts thereof, made of iron or steel, and steel tired wheels for railway pur- poses, whether wholly or partly finished, and iron or steel locomotive, car, or other railway tires or parts thereof, wholly or partly manufac- tured	1 $\frac{1}{2}$ c lb	1 $\frac{1}{4}$ c	1 $\frac{3}{4}$ c to 2 $\frac{1}{2}$ c
Ingots—Cogged ingots, blooms, or blanks for the same, with- out regard to the degree of manufacture	1 $\frac{1}{4}$ c lb	1 $\frac{1}{4}$ c	1 $\frac{3}{4}$ c to 2 $\frac{1}{2}$ c
Provided, that when wheels or parts thereof of iron or steel are imported, with iron or steel axles fitted in them, the wheels and axles together shall be dutiable at the same rate as is provided for the wheels when imported separately.			
Miscellaneous Metals and Manufactures of—			
Aluminum and alloys of any kind in which aluminum is the component material of chief value in crude form....	8c lb	10c	15c
Plates, sheets, bars, and rods..	13c	10c	15c
Antimony as regulus or metal..	$\frac{3}{4}$ c	Free	$\frac{3}{4}$ c

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Lew
Argentine, Albata, or German silver, unmanufactured.....	25 p c	15 p c	25 p c
Bronze powder.....	12c lb	40 p c	12c
Bronze or Dutch metal of alumi- num in leaf.....	6c 100 leaves	40 p c	8c 100 leaves
Copper in rolled plates, sheets, rods, pipes, and copper bot- toms.....	2½c lb	20 p c	35 p c
Sheathing or yellow metal, of which copper is the compo- nent material of chief value, and not composed wholly or in part of iron ungalvanized.	2c	20 p c	35 p c
Gold and Silver—			
Gold leaf, 500 leaves.....	\$1.75	30 p c	\$2.00
Silver leaf, 500 leaves.....	75c	30 p c	75c
Tinsel wire, lame or lahn, made wholly or in chief value of gold, silver or other metal...	5c lb	25 p c	30 p c
Bullions and metal thread, with chief value in tinsel wire, lame or lahn.....	5c and 35 p c	Free	Free
Laces, embroideries, braids, trimmings or other articles with chief value in tinsel wire, lame or lahn, bullions or metal threads.....	60 p c	Free	Free
Hooks and eyes, metallic, whether loose, carded or otherwise.....	5½c lb & 15 p c	35 p c	
Lead—			
Lead-bearing ore of all kinds, on the lead contained therein	1½c lb	¾c	1½c
Lead dross, lead bullion or base bullion, lead in pigs and bars and old refuse; lead run into blocks and bars, and old scrap lead fit only to be remanu- factured.....	2⅛c	1c	2c
Lead in sheets, pipe, shot, glaziers' lead and lead wire..	2½c	1¼c	2½c
Metallic mineral substances in crude state, and metals un- wrought, not specially pro- vided for.....	20 p c		25 p c
Monazite sand and thorite	6c lb		25 p c

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Mica unmanufactured.....	6c lb & 20 p c	20 p c	35 p c
Cut or trimmed.....	12c & 20 p c	20 p c	35 p c
Nickel oxide, alloy, in which nickel is of chief value, in pigs, ingots, bars or sheets...	6c	6c	10c
Pens, metallic, except gold pens	12c grs	8c	12c
Penholder tips, penholders and parts, and gold pens.....	25 p c	25 p c	30 p c
Pins with solid heads, without ornamentation, including hair, safety, hat and shawl pins, wholly of brass, copper, iron, steel or other base metal not plated, and not commonly known as jewelry.....	35 p c	25 p c	30 p c
Quicksilver.....	7c lb	7c	10c
Type metal, for the lead contained therein.....	1½c	¾c	1½c
New types.....	25 p c	15 p c	25 p c
Watch movements having not more than 7 jewels.....	35c each & 25 p c	.....	.....
If having more than 7 jewels and not more than 11 jewels	50c & 25 p c	.....	.....
If having more than 11 jewels and not more than 15 jewels	75c & 25 p c	.....	.....
If having more than 15 jewels and not more than 17 jewels	\$1.25 & 25 p c	.....	.....
If having more than 17 jewels	\$3.00 & 25 p c	.....	.....
Watch cases and parts of watches, including watch dials, chronometers, box or ship, and parts thereof, clocks and parts thereof, not otherwise provided for, whether separately packed or otherwise, not wholly or in chief value of china, porcelain or earthenware.....	40 p c	25 p c	25 p c
All jewels for watches or clocks	10 p c	25 p c	25 p c
Zinc in blocks or pigs.....	1½c lb	1c	1½c
In sheet.....	2c	1¼c	2¼c

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Old and worn out, fit only to be remanufactured	1c	$\frac{3}{4}$ c	$1\frac{1}{4}$ c
Articles or wares not specially provided for, composed wholly or in part of iron, steel, lead, copper, nickel, pewter, zinc, gold, silver, platinum, aluminum, or other metal, and whether partly or wholly manufactured	45 p c	35 p c	45 p c

Schedule D—Wood and Manufactures of.

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Timber, hewn, sided or squared (not less than 8 inches square) and round timber used for spars or in building wharves.	1c c f	Free	10 p
Sawed boards, planks, deals and other lumber, of white-wood, sycamore and bass-wood.....	\$1 M	Free	\$1
Sawed lumber, not provided for.....	\$2	Free	\$2
When lumber of any sort is planed or finished, in addition to the rates herein provided there shall be paid for each side so planed or finished, per thousand feet, board measure.....	50c	Free	50c
If planed on one side, and tongued and grooved, per thousand feet.....	\$1	Free	\$1
If planed on two sides, and tongued and grooved, per thousand feet.....	\$1.50	Free	\$1.50
Payng posts, railroad ties, telephone, trolley, electric light, and telegraph poles of cedar.	20 p c	Free	20 p c
Other woods.....	20 p c	Free	Free
Kindling wood in bundles, not exceeding one-quarter of a cubic foot each, per bundle..	3-10c	Free	Free

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
Larger bundles, for each additional quarter of a cubic foot or fraction thereof	3-10c	Free	Free
Sawed boards, planks, deals, etc., not further manufactured than sawed.....	15 p c	Free	15 p c
Veneers of wood, unmanufactured, not specially provided for.....	20 p c	Free	20 p c
Clapboards, per M.....	\$1.50	Free	\$1.50
Hubs for wheels, posts, last blocks, wagon blocks, heading bolts, stave bolts, oar blocks, heading blocks, and all like blocks or sticks, rough hewn, sawed or bored.....	20 p c	Free	20 p c
Fence posts.....	10 p c	Free	20 p c
Lath, per M.....	25c	Free	15c
Pickets and palings and staves of wood of all kinds.....	10 p c	Free	10 p c
Shingles, per M.....	30c	Free	20 p c
Casks and barrels and hogsheds (empty), sugar box shoofs, packing boxes and packing box shoofs of wood, not specially provided for...	30 p c	20 p c	30 p c
Boxes, barrels, or other articles containing oranges, lemons, fruit, etc.....	30 p c	.....	.....
Chair cane or reeds, wrought or manufactured from rattans or reeds.....	10 p c	10 p c	10 p c
Osier or willow, prepared for basket makers' use.....	20 p c	20 p c	20 p c
Manufactures of osier or willow	40 p c	25 p c	35 p c
Toothpicks or vegetable substances, per thousand.....	15 p c	35 p c	35 p c
Butchers' and packers' skewers	40c M	.....	.....
House or cabinet furniture, manufactured or partially manufactured, and manufactures of wood, or of which wood is the material of chief value, not specially provided for	35 p c	25 p c	35 p c

Schedule E—Sugar, Molasses, and Manu- factures of.

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
Sugar, not above No. 16 Dutch standard in color, tank bot- toms, syrups of cane juice, melada, concrete and con- centrated molasses, testing by the polariscope not above 75 degrees.....	95-100c lb	40 p c	Free
For each additional degree and fraction of degree in propor- tion	35-1000c	.....	.....
Sugar above No. 16 Dutch standard in color, and on all sugar which has gone through a process of refining	195-100c	$\frac{1}{8}$ c and 40 p c	5-10c
Molasses testing above 40 de- grees and not above 56 de- grees.....	3c gal	.....	.....
Testing 56 degrees and above..	6c gal	.....	.....
Sugar drainings and sweepings shall pay duty according to polariscopic test.			
Maple sugar and maple syrup.	4c lb	40 p c	40 p c
Glucose or grape sugar.....	$1\frac{1}{2}$ c lb	15 p c	$\frac{3}{4}$ c lb
Sugar cane, natural state.....	20 p c	10 p c	10 p c
Saccharine	\$1.50 & 10 p c	25 p c	50 p c
Sugar candy and all confec- tionery valued at 15c per lb or less, and on sugar after being refined when tintured, colored or adulterated.....	4c & 15 p c	35 p c	5c
Valued at more than 15c lb....	50 p c	35 p c	50 p c

Schedule F—Tobacco and Manufactures of.

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Wrapper tobacco and filler tobacco, when mixed or packed with more than 15 per cent of wrapper tobacco, and all leaf tobacco the product of two or more countries, when mixed or packed together, if unstemmed.....	\$1.85 lb	35c	\$2
If stemmed.....	\$2.50	50c	\$2.75
Filler tobacco not provided for, if unstemmed.....	35c	35c	35c
If stemmed.....	50c	50c	50c
All other tobacco, manufactured or unmanufactured, not provided for.....	55c	40c	40c
Snuff and snuff flour, manufactured of tobacco, of all descriptions.....	55c	50c	50c
Cigars, cigarettes, and cheroots, including paper cigars and cigarettes	\$4.50 lb & 25 p c	\$4 & 25 p c	\$4.50 & 25 p c

Schedule G—Agricultural Products and Provisions.

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Animals, Live—			
Cattle, if less than 1 year old..	\$2 head	20 p c	\$2
All other cattle, if valued at not more than \$14 a head.....	\$3.75	.....	.....
Valued at more than \$14.....	27½ p c	.....	.....
Swine.....	\$1.50	20 p c	\$1.50
Horses and mules valued at \$150 or less per head.....	\$30 head	20 p c	\$30
Valued at over \$150.....	25 p c	20 p c	30 p c
Sheep 1 year old or over.....	\$1.50	20 p c	\$1.50
Less than 1 year old	75c	20 p c	75c
Other live animals not provided for	20 p c	20 p c	20 p c
Breadstuffs and Farinaceous Substances—			
Barley.....	30c bu	40 p c	30c

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
Barley malt.....	45c	40 p c	45c
Barley, pearled, patent or hulled.....	2c lb	40 p c	2c
Buckwheat.....	15c bu	15 p c	15c
Corn.....	15c	15 p c	15c
Cornmeal.....	20c	15 p c	20c
Macaroni, vermicelli, and simi- lar preparations.....	1½c lb	20 p c	2c
Oats.....	1c lb	15 p c	1c
Oatmeal and rolled oats.....	1c lb	15 p c	2c
Oat hulls, per 100 lbs.....	10c	20 p c	20 p c
Rice, cleaned.....	2c lb	1½c	2c
Uncleaned, or ~~free~~ from outer hull, with inner cuticle on... Rice flour, meal, and rice bro- ken which will pass through a sieve known as No. 12 wire sieve.....	1¼c	8-10c	1¼c
Paddy, or rice with outer hull on	¼c	¼c	¼c
Rye.....	3¼c	3¼c	3¼c
Rye flour.....	10c bu	15 p c	10c
Wheat.....	1½c lb	15 p c	1½c
Wheat flour.....	25c bu	15 p c	25c
Dairy Products—	25 p c	25 p c	25 p c
Butter and substitutes therefor	6c lb	4c	8c
Cheese and substitutes therefor	6c	4c	8c
Milk, fresh.....	2c gal	Free	5c
Milk, preserved or condensed, or sterilized.....	2c lb	2c	3c
Sugar of milk.....	5c	5c	5c
Farm and Field Products—			
Beans.....	45c bu	20 p c	40c
Beans, peas and mushrooms, preserved in tins, jars or simi- lar packages.....	2½c lb	.....	.....
All vegetables, prepared or preserved, including pickles and sauces of all kinds, not provided for, and fish paste or sauce.....	40 p c	30 p c	40 p c
Cabbages.....	3c ea	Free	Free
Cider.....	5c gal	Free	5c
Eggs, not provided for.....	5c doz	3c	5c
Eggs, yolk of.....	25 p c	Free	25 p c
Albumen, egg or blood.....	3c lb	Free	.....
Dried blood, soluble.....	1½c	Free	.....
Hay.....	\$4 ton	\$2	\$4
Honey.....	20c gal	10c	20c

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
Hops	12c lb	8c	15c
Hop extract	50 p c	.....	.....
Onions	40c bu	20c	40c
Garlic	1c lb	7 p c	10 p c
Pears, green, in bulk, barrels, sacks, or similar packages...	40c bu	Free	40c
Pears, dried	30c bu	20c	20c
Pears, split	40c bu	50c	50c
Pears, in cartons, papers, etc...	1c lb	1c	1c
Orchids, palms, drecoenas, cro- tons and azaleas	25 p c	Free	30 p c
Tulips, hyacinths, narcissi, jon- quils, lilies, and all other bulbs, bulbous roots, culti- vated for their flowers	25 p c	Free	30 p c
Natural flowers of all kinds suitable for decorative pur- poses	25 p c	Free	30 p c
Stocks, cuttings, or seedlings of Myrabolan plum, Mahaleb cherry, 3 years old or less, per 1,000	50c & 15 p c	Free	.....
Stocks of pear, apple, quince, and St. Julien plum, 3 years old or less, and evergreen seedlings, per 1,000	\$1 & 15 p c	Free	.....
Rose plants, budded, grafted, or grown on their own roots.	2 ¹ / ₂ c ea	Free	.....
Stocks, cuttings, and seedlings of all fruit and ornamental trees, deciduous and ever- green shrubs and vines, and all trees, shrubs, plants and vines known as nursery stock, not provided for	25 p c	Free	.....
Potatoes	25c bu	15c	25c
Castor beans or seeds	25c	25c	50c
Flaxseed or linseed and other oil seeds not specially pro- vided for	25c	25c	25c
Poppy seed	15c bu	.....	.....
Seeds of all kinds not specially provided for	30 p c	10 p c	20 p c
Straw	\$1.50 ton	15 p c	30 p c
Teazles	30 p c	15 p c	30 p c

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
Vegetables in natural state not specially provided for.....	25 p c	10 p c	10 p c
Fish—			
Anchovies, sardines, sprats, brislings, or sardels, packed in oil or otherwise, in bottles, jars, tin boxes, or cans, containing $7\frac{1}{2}$ cubic inches or less, per bottle, jar, or can..	$1\frac{1}{2}$ c	.....	.....
Containing more than $7\frac{1}{2}$ and not more than 21 cubic in...	$2\frac{1}{2}$ c	.....	.....
Containing more than 21 and not more than 33 cubic in...	5c	.....	.....
Containing more than 33 and not more than 70 cubic in...	10c	.....	.....
If in other packages	40 p c	40 p c	40 p c
All other fish in tin packages, except shellfish.....	30 p c	20 p c	30 p c
Fish in packages containing less than $\frac{1}{2}$ bbl. not provided for	30 p c	20 p c	30 p c
Fresh water fish not specially provided for	$\frac{1}{4}$ c lb	Free	Free
Herring, pickled or salted.....	$\frac{1}{2}$ c lb	$\frac{1}{2}$ c	$\frac{1}{4}$ c
Herring, fresh.....	$\frac{1}{4}$ c	$\frac{1}{2}$ c	$\frac{1}{4}$ c
Fish, fresh, smoked, dried, salted, pickled, frozen, packed in ice or otherwise for preservation, not provided for..	$\frac{3}{4}$ c lb	.....	.....
Fish, skinned or boned.....	$1\frac{1}{4}$ c	$\frac{3}{4}$ c	$\frac{3}{4}$ c
Mackerel, halibut or salmon, fresh, pickled, or salted.....	1c	$\frac{3}{4}$ c	1c
Fruits and Nuts—			
Apples, peaches, quinces, cherries, plums, and pears, green or ripe	25c bu	20 p c	25c
Apples, peaches, pears, and other edible fruits, including berries when dried or prepared in any manner, not provided for.....	2c lb	20 p c	2c
Berries, edible, in their natural condition.....	1c qt	.....	.....
Cranberries	25 p c	Free	.....
Comfits, sweetmeats, and fruits preserved in sugar, molasses, spirits, or in their own juices, not provided for.....	1c lb & 35 p c	30 p c	35 p c

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
If containing over 10 p. c. alco- hol, not provided for.....	35 p c	36 p c	30 p c
On alcohol contained over 10 p. c.....	\$2.50 per gal	Spirit duty	Spirit duty
Jellies of all kinds.....	35 p c	30 p c	35 p c
Pineapples in their own juice..	25 p c	20 p c	25 p c
Figs, plums, prunes and prunel- les.....	2c lb	1½c	2½c
Raisins and other dried grapes	2½c	1½c	2½c
Dates.....	½c	30 p c	½c
Currants.....	2c	1½c	Free
Olives, in bottles, jars, etc....	25c gal	20 p c	Free
In casks, or other than in bot- tles, etc.....	15c	20 p c	Free
Grapes, in barrels, or other packages.....	20c c f	20 p c	60c brl
Oranges, lemons, limes, grape fruit, shaddocks, or pomelos	1c lb	8c c f	13c pkg of 1¼c
Orange peel or lemon peel, preserved, candied or dried, and cocoanut meat, desiccated, shredded, or cut.....	2c lb	30 p c	2c
Citron or citron peel, preserved, candied or dried.....	4c	20 p c	20 p c
Pineapples, in barrels or other packages.....	7c c f	20 p c	Free
In bulk, per 1,000.....	\$7	20 p c	Free
Almonds, not shelled.....	4c lb	3c	5c
Clear almonds, shelled.....	6c	5c	7½c
Filberts and walnuts of all kinds, not shelled.....	3c	2c	3c
Shelled.....	5c	4c	6c
Peanuts, unshelled.....	½c	20 p c	1c
Shelled.....	1c	20 p c	1½c
Nuts of all kinds, shelled or unshelled, not provided for.	1c	20 p c	1½c
Meat Products—			
Bacon and hams.....	5c lb	20 p c	5c
Fresh beef, veal, mutton, and pork.....	2c	20 p c	25 p c
Meats of all kinds, prepared or preserved, not provided for..	25 p c	20 p c	25 p c
Extract of meat, not provided for.....	35c	20 p c	25 p c
Fluid extract of meat.....	15c	20 p c	25 p c
Lard.....	2c	20 p c	25 p c
Poultry, live.....	3c	2c	3c
Dressed.....	5c	3c	5c

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Tallow	$\frac{7}{8}$ c	Free	1c
Wool grease.....	$\frac{1}{2}$ c	Free	$\frac{1}{2}$ c
Miscellaneous Products—			
Chicory root, unground.....	1c lb	Free	Free
Burnt, ground, or unground, in rolls, or otherwise, not provided for	$2\frac{1}{2}$ c	2c	2c
Chocolate and cocoa, prepared, not provided for, valued at not over 15c lb.....	$2\frac{1}{2}$ c	2c	2c
Valued over 15c, not above 24c lb.....	$2\frac{1}{2}$ c & 10 p c	2c	2c
Valued above 24c and not above 35c lb.....	5c & 10 p c	2c	2c
Valued above 35c lb.....	50 p c	35 p c	2c
Powdered cocoa, unsweetened.	5c lb	2c	2c
Cocoa butter or cocoa butterine	$3\frac{1}{2}$ c	$3\frac{1}{2}$ c	$3\frac{1}{2}$ c
Dandelion root and acorns, prepared, and articles used as coffee, not provided for.....	$2\frac{1}{2}$ c	$1\frac{1}{2}$ c	$1\frac{1}{2}$ c
Salt in bags, sacks, barrels, or other packages, per 100 lbs..	12c	Free	12c
In bulk	8c	Free	8c
The provisions of the McKinley law remitting the duty paid on salt used in curing fish on vessels or on the shores of navigable waters of the United States, and in packing meats, is re-enacted			
Starch and all preparations used as starch.....	$1\frac{1}{2}$ c lb	$1\frac{1}{2}$ c	2c
Dextrine, burnt starch, gum substitute, or British gum....	2c	$1\frac{1}{2}$ c	$1\frac{1}{2}$ c
Spices—			
Mustard prepared in bottles or otherwise.....	10c	25 p c	10c
Capsicum, or red pepper.....	$2\frac{1}{2}$ c	$2\frac{1}{2}$ c	$2\frac{1}{2}$ c
Sage.....	1c	1c	3c
Spices not provided for.....	3c	3c	4c
Vinegar	$7\frac{1}{2}$ c pr'f gal	$7\frac{1}{2}$ c gal	.....

Schedule H—Spirits, Wines, and Other Beverages.

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Spirits—			
Brandy and other spirits, manufactured or distilled from grain or other materials, and not specially provided for, per proof gallon	\$2.25 per gal	\$1.80	\$2.50
Cordials, liqueurs, arrack, absinthe, Kirschwasser, ratafia, and other spirituous beverages or bitters of all kinds, containing spirits, and not specially provided for.....	\$2.25 per gal	\$1.80	\$2.50
Imitations of brandy or spirits or wines, imported by any names whatever, shall be subject to the highest rate of duty provided for the genuine articles respectively intended to be represented; and in no case less than.....	\$1.50 gal	\$1	\$1.50
Bay rum or bay water, whether distilled or compounded, of first proof, and in proportion for any greater strength than first proof.....	\$1.50 gal	\$1	\$1.50
Wines—			
Champagne and all other sparkling wines, in bottles, containing each not more than one quart and more than one pint, per doz.....	\$8	\$8	\$8
Containing not more than one pint each and more than one-half pint, per doz.....	\$4	\$4	\$4
Containing one-half pint each or less, per doz	\$2	\$2	\$2
In bottles or other vessels, containing more than one quart each in addition to \$8 per dozen bottles, on the quantity in excess of one quart, per gal..	\$2.50	\$2.50	\$2.50

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
Still wines, including ginger wine and vermouth, in casks or packages other than bottles or jugs, containing 14 p c or less of absolute alcohol.....	40c gal	30 to 50c	50c
Containing more than 14 p c alcohol.....	50c	30 to 50c	50c
In bottles or jugs, per case of one doz., containing each not more than one quart, and less than one pint, or 24 bottles or jugs, containing each not more than one pint, per case.	\$1.60	\$1.60	\$1.60
Excess of these quantities is subject to a duty per pint or fractional part thereof of....	5c	5c	5c
Ale, porter, and beer, in bottles or jugs, per gal.....	40c	30c	40c
But no separate or additional duty shall be assessed on the bottles or jugs.			
Otherwise than in bottles or jugs, per gal.....	20c	15c	20c
Malt extract, fluid, in casks, per gal.....	20c	15c	20c
In bottles or jugs.....	40c	30c	40c
Solid or condensed.....	40 p c	30 p c	40 p c
Cherry juice and prune juice, or prune wines and other fruit juice not specially provided for, containing no alcohol or not more than 18 p c of alcohol, per gal.....	60c	50c	60c
If containing more than 18 p c of alcohol.....	60c gal & \$2.07 per gal on spr's	\$1.80 gal	\$2.50 gal
Ginger ale, ginger beer, lemonade, soda water, and other similar beverages, in plain, green or colored, molded or pressed glass bottles, containing each not more than $\frac{3}{4}$ of a pint, per doz.....	18c	20 p c	15c
Containing more than $\frac{3}{4}$ of a pint each and not more than $1\frac{1}{2}$ pints, per doz.....	28c	20 p c	28c

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
If imported otherwise than in plain green or colored, molded or pressed glass bottles, or in such bottles containing more than $1\frac{1}{2}$ pints each, duty shall be collected on the bottles or other colorings at the rate charged thereon if imported empty.....	50c gal	.....	50c
All mineral waters, and all imitations of natural mineral waters, and all artificial mineral waters not specially provided for, in green or colored glass bottles, containing not more than one pint per doz..	20c	20 p c	16c
If containing more than one pint and not more than one quart, per doz.....	30c	20 p c	25c
If imported otherwise than in plain, green or colored glass bottles, or if imported in such bottles containing more than one quart, per gal.....	24c	20 p c	20c

Schedule I—Cotton Manufactures.

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Cotton thread and carded yarn, warps or warp yarn, except spool thread or cotton, not colored, bleached, dyed, etc., up to and including No. 15...	3c lb	3c lb	.....
On all numbers exceeding No. 15 and up to No. 30.....	1-5c per No	1-5c per No	.....
Exceeding No. 30.....	$\frac{1}{4}$ c	$\frac{1}{4}$ c	.....
Colored, bleached, dyed, etc., all numbers up to 20.....	6c	6c	.....
Exceeding No. 20, and up to No. 80, per No., per lb.....	$\frac{1}{4}$ c	.....	.....
No. 80 and above, per No., per lb.....	3-10c	.....	.....
Cotton card laps, roping, sliver or roving.....	45 p c	.....	.....

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
Spool thread of cotton, includ- ing crochet, etc., on spools or reels; spools 100 yards each, per doz.....	6c	2½c	7c
For each additional 100 yards, per dozen.....	6c	5½c	7c
If otherwise than on spools or reels, for each 100 yards or fraction.....	½c	.....	.....
Cotton cloth, not exceeding 50 threads to the square inch, not bleached, per yard.....	1c	1c	2c
Bleached, per yard.....	1¼c	1¼c	2½c
Dyed, colored, or printed, per yard.....	2c	2c	4c
Exceeding 50 threads, and not exceeding 100 threads to sq. inch; not bleached; not ex- ceeding 6 yds to lb., per yd..	1¼c	1¼c	.....
Over 6 and not over 9 yards to lb., per yard.....	1½c	1½c	.....
Over 9 yards to lb.,.....	1¾c	1¾c	.....
Bleached: Not over 6 yards to lb., per yard.....	1½c	1½c	.....
Over 6 and not over 9 yards...	1¾c	1¾c	.....
Over 9 yards to lb.,.....	2¼c	2¼c	.....
Dyed, colored, or printed; not over 6 yards to lb., per yard.	2¾c	2¾c	.....
Over 6 and not over 9.....	3¼c	3¼c	.....
Over 9 yards to lb.,.....	3½c	3½c	.....
Not over 100 threads, not bleached, valued at over 7c per yard.....	25 p c	25 p c	35 p c
Over 100 and not over 150 threads to the sq. inch, not bleached, not over 4 sq. yds. to lb., per yard.....	1½c	1½c	.....
Over 4 and not over 6.....	2c	2c	.....
Over 6 and not over 8.....	2½c	2½c	.....
Over 8.....	2¾c	2¾c	.....
If bleached and not exceeding 4 sq. yds. to the lb, per sq yard.....	2½c	2½c	.....
Over 4 and not over 6 sq. yds. per lb.....	3c	3c	.....
Over 6 and not over 8.....	3½c	3½c	.....
Over 8.....	3¾c	3¾c	.....
Dyed, not over 4 yards to lb.,...	3½c	3½c	.....

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
Over 4 and not over 6.....	3 $\frac{3}{4}$ c	3 $\frac{3}{4}$ c	.....
Over 6 and not over 8.....	4 $\frac{1}{4}$ c	4 $\frac{1}{4}$ c	.....
Over 8.....	4 $\frac{1}{2}$ c	4 $\frac{1}{2}$ c	.....
Over 100 and not over 150 threads to the sq. in., not bleached, etc., valued at over 9c sq. yd.....	30 p c	.....	.....
Bleached, valued at over 11c...	35 p c	.....	.....
Dyed, colored, etc., valued at over 12 $\frac{1}{2}$ c.....	35 p c	.....	.....
Exceeding 150 and not over 200 threads to square inch, not bleached, not over 3 $\frac{1}{2}$ yards to lb., per yd.....	2c	2c	.....
Over 3 $\frac{1}{2}$ and not over 4 $\frac{1}{2}$	2 $\frac{3}{4}$ c	2 $\frac{3}{4}$ c	.....
Over 4 $\frac{1}{2}$ and not over 6.....	3c	3c	.....
Over 6.....	3 $\frac{1}{2}$ c	3 $\frac{1}{2}$ c	.....
Bleached, not over 3 $\frac{1}{2}$ yards to the pound.....	2 $\frac{3}{4}$ c	2 $\frac{3}{4}$ c	.....
Over 3 $\frac{1}{2}$ and not over 4 $\frac{1}{2}$	3 $\frac{1}{2}$ c	3 $\frac{1}{2}$ c	.....
Over 4 $\frac{1}{2}$ and not over 6.....	4c	4c	.....
Over 6.....	4 $\frac{1}{4}$ c	4 $\frac{1}{4}$ c	.....
Dyed, not over 3 $\frac{1}{2}$ yds to lb...	4 $\frac{1}{4}$ c	4 $\frac{1}{4}$ c	.....
Over 3 $\frac{1}{2}$ and not over 4 $\frac{1}{2}$	4 $\frac{1}{2}$ c	4 $\frac{1}{2}$ c	.....
Over 4 $\frac{1}{2}$ and not over 6.....	4 $\frac{3}{4}$ c	4 $\frac{3}{4}$ c	.....
Over 6.....	5c	5c	.....
Exceeding 150 and not over 200 threads to the square inch, not bleached, etc., valued over 10c per square yard....	35 p c	.....	45 p c
Bleached, valued at over 12c square yard.....	35 p c	.....	45 p c
Dyed, etc., valued at over 12 $\frac{1}{2}$ c square yard.....	40 p c	.....	45 p c
Exceeding 200 and not exceed- ing 300 threads to square inch, not bleached, not over 2 $\frac{1}{2}$ yards to pound, per yard	3 $\frac{1}{2}$ c	3c	.....
Over 2 $\frac{1}{2}$ and not over 3 $\frac{1}{2}$	4c	3 $\frac{1}{2}$ c	.....
Over 3 $\frac{1}{2}$ and not over 5.....	4 $\frac{1}{2}$ c	4c	.....
Over 5.....	5c	4 $\frac{1}{2}$ c	.....
Bleached, not over 2 $\frac{1}{2}$ yards to pound.....	4 $\frac{1}{2}$ c	4c	.....
Over 2 $\frac{1}{2}$ and not over 3 $\frac{1}{2}$	5c	4 $\frac{1}{2}$ c	.....
Over 3 $\frac{1}{2}$ and not over 5.....	5 $\frac{1}{2}$ c	5c	.....
Over 5.....	6c	5 $\frac{1}{2}$ c	.....
Dyed, not over 3 $\frac{1}{2}$ yards to 1 pound, per yard.....	6 $\frac{1}{4}$ c	5 $\frac{3}{4}$ c	.....

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
Exceeding $3\frac{1}{2}$ square yards to pound.....	7c	.....	.....
Not bleached, dyed, etc., val- ued at over $12\frac{1}{2}$ c per square yard; bleached, valued at over 15c square yard, and dyed, valued at over $17\frac{1}{2}$ c square yard	40 p c	.....	.....
Exceeding 300 threads to the square inch, not bleached, and not over 2 yards to the pound, per yard	4c	.....	.....
Over 2 and not over 3 yards, per pound.....	$4\frac{1}{2}$ c	.....	.....
Over 3 and not over 4.....	5c	.....	.....
Over 4	$5\frac{1}{2}$ c	.....	.....
Bleached, not over 2 yards to the pound.....	5c	.....	.....
Over 2 and not over 3.....	$5\frac{1}{2}$ c	.....	.....
Over 3 and not over 4.....	6c	.....	.....
Over 4	$6\frac{1}{2}$ c	.....	.....
Dyed, not over 3 yards to the pound, per yard.....	$6\frac{1}{2}$ c	.....	.....
Over 3	8c	.....	.....
Not bleached, dyed, etc., val- ued at over 14c per square yard; bleached, valued at over 16c per square yard, and dyed, valued at over 20c per square yard	40 p c	.....	.....
Cloth composed of cotton or other vegetable fiber and silk, of which cotton is the chief value, per square yard.....	8c & 30 p c	.....	.....
None such to pay less than....	50 p c	.....	.....
Cotton cloth filled or coated, per square yard.....	3c & 20 p c	.....	.....
Handkerchiefs and mufflers to pay same duty as on cotton cloth in them, not less than.	45 p c	.....	.....
If hemstitched, additional.....	10 p c	.....	.....
If embroidered, additional....	60 p c	.....	.....
Cotton cloth, known as lappets, shall pay in addition to duty on cotton cloth valued at less than 7c per yard.....	1c	.....	.....

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
At more than 7c.....	2c .....	.....	.....
Clothing, ready made, and wearing apparel.....	50 p c	40 p c	50 p c
Articles having India rubber as a component material.....	15c lb & 50 p c	50 p c	50c & 50 p c
Plushes, velvets, velveteens, corduroys and all pile fabrics, cut or uncut, any composed of cotton or other vegetable fiber, not bleached or dyed..	9c s y & 25 p c	40 p c	10c & 20 p c
Bleached or dyed.....	12c & 25 p c	47½ p c	12c & 20 p c
Bias dress facings from plushes, velvets, or other pile fabrics, the foregoing rates of duty and additional.....	10 p c .....	.....	.....
None of such fabrics to pay less than.....	47½ p c .....	.....	.....
Curtains, table covers, and articles manufactured of cotton chenille	50 p c	40 p c	60 p c
Hosiery made on knitting machines.....	30 p c	30 p c	35 p c
Stockings, hose and half hose, fashioned or shaped wholly or in part by knitting machines, of cotton or other vegetable fiber, finished or unfinished, valued at not more than \$1 per doz., per doz. pairs	50c & 15 p c	50 p c	20c & 20 p c
Valued at more than \$1, and not more than \$1.50.....	60c & 15 p c	50 p c	50c & 30 p c
Valued at more than \$1.50, and not more than \$2.....	70c & 15 p c	50 p c	50c & 30 p c
Valued at more than \$2, and not more than \$3.....	\$1.20 & 15 p c	50 p c	75c & 40 p c
Valued at more than \$3, and not more than \$5.....	\$2 & 15 p c	50 p c	\$1 & 40 p c
Valued at more than \$5.....	55 p c	50 p c	\$1 & 40 p c

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Shirts, drawers, pants, vests, etc., valued at not more than \$1.50 per doz.....	75c & 15 p c	50 p c	35 p c
Valued at more than \$1.50, and not more than \$3.....	\$1.10 & 15 p c	50 p c	\$1.25 & 35 p c
Valued at more than \$3, and not more than \$5.....	\$1.50 & 25 p c	50 p c	\$1.25 & 40 p c
Valued at more than \$5, and not more than \$7.....	\$1.75 & 35 p c	50 p c	\$1.50 & 40 p c
Valued at more than \$7, and not more than \$15.....	\$2.25 & 35 p c	50 p c	\$2 & 40 p c
Valued above \$15.....	50 p c	50 p c	\$2 & 40 p c
Bandings, beltings, bindings, bone casings, cords, garters, suspenders, and braces, gorings, lining for bicycle tires, ribbons, tapes, tubing, webs, or webbing.....	45 p c	45 p c	40 p c
Spindle banding, woven, braided, or twisted lamp, stove, or candle wicking.....	10c lb & 15 p c	45 p c	40 p c
Loom harness or healds.....	50c lb & 25 p c	35 p c	40 p c
Boot, shoe, and corset lacings.	25c lb & 15 p c	.....	.....
Labels for ornaments	50c lb & 30 p c	35 p c	40 p c
Cotton damask	40 p c	35 p c	40 p c
Cotton duck.....	35 p c	35 p c	40 p c
All other manufactures of cotton not specially provided for	45 p c	35 p c	40 p c

Schedule J—Flax, Hemp, Jute, and Manufactures.

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Flax straw.....	\$5 ton	Free	\$5
Flax, not hackled or dressed ..	1c lb	Free	1c

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Flax, hackled.....	3c	Free	3c
Tow of flax.....	\$20 ton	Free	1 ² c lb
Hemp and tow of hemp.....	\$20 ton	Free	1 ² c lb
Hemp, hackled.....	\$40 ton	Free	~~50~~
Single yarns, made of jute, not finer than 5 lea	1c lb & 10 p c	30 p c	35 p c
Finer than 5 lea	35 p c	30 p c	35 p c
Cables and cordage of istle, Tampico fiber, Manila, sisal grass, or mixture.....	1c lb	35 p c	.....
Cables and cordage made of hemp.....	2c	35 p c	.....
Threads, twines, or cords made from yarn, not finer than 5 lea or number of flax, hemp, or ramie, or of which either of these substances is a material of chief value.....	13c lb	35 p c	.....
From yarn finer than 5 lea, for each lea in excess of 5, additional	3 ⁴ c	.....	.....
Single yarns, in the gray, of flax, hemp, or ramie, not finer than 8 lea	7c lb	35 p c	.....
Finer than 8 lea and not finer than 80 lea	40 p c	35 p c	.....
Finer than 80 lea	15 p c	35 p c	.....
Flax gill netting, nets, webs and seines, same duty as on material of which they are made.	25 p c addit'n'l	40 p c	15c lb & 35 p c
Floor mattings, plain or fancy, from straw, round or split, or other vegetable substance, not provided for, including Chinese straw mats, etc., not exceeding 10c square yard..	3c sq yd	Free	Free
Exceeding 10c.....	7c yd & 25 p c	Free	Free
Carpets, carpetings, mats and rugs of flax, hemp, jute, or other vegetable fiber, except cotton, valued at not more than 15c per square yard....	5c sq yd & 35 p c	20 p c	.....
Valued above 15c square yard.	10c & 35 p c	20 p c	.....

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Hydraulic hose, made in whole or in part of flax, hemp, ramie or jute.....	20 ⁰ lb	40 p c	20c lb
Tapes, composed wholly or in part of flax, with or without metal threads, etc.....	40 p c	25 p c	50 p c
Oilcloth for floors, stamped, painted, or printed, including linoleum, corticene, figured or plain, and all other oilcloth (except silk oilcloth) not specially provided for...	8c sq yd & 15 p c	25 p c or 40 p c	.....
Oilcloths for floors, and linoleum, 12 feet and over in width, inlaid and cork carpet.....	20csqyd & 20 p c	25 p c or 40 p c	40 p c
Shirt collars and cuffs composed of cotton.....	45c doz pieces & 15 p c	40 p c	15c doz & 35 p c
Whole or in part of linen.....	40c doz & 20 p c	20c doz & 30 p c	30c doz & 20 p c
Plain woven fabrics of single jute yarns, not exceeding 6 in. wide, weighing not less than 6 oz per square yard, not exceeding 30 threads per square inch.....	58c lb & 15 p c	Free	158c lb
Exceeding 20 and not exceeding 55 threads.....	78c lb & 15 p c	Free	158c lb
Bags or sacks, plain woven fabrics, single jute yarn, not dyed, stained, or bleached, not exceeding 30 threads to square inch.....	78c lb & 15 p c	Free	158c lb
Bagging for cotton, gunny cloth, similar fabrics, for covering cotton, of single yarns of jute, etc., not bleached, colored, or stained, not exceeding 16 threads to the square inch, weighing not less than 15 oz per square yd.	6-10c lb	.....	.....

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
Laces, lace window curtains, tidies, bed sets, flouncings, and other lace articles; handkerchiefs, napkins, and other articles wholly or part of lace, or in imitation; nets, veils, ruchings, tuckings, fleshings, and quillings; embroideries, and all trimmings, including braids, edgings, insertings, flouncings, galloons, gorings, and bands; wearing apparel, handkerchiefs, and other fabrics embroidered in any manner; tamboured articles, or wearing apparel; hemstitched or tucked flouncings or skirtings; articles wholly or in part of ruffings, tuckings or ruchings; all foregoing of flax, cotton, or other vegetable fiber, not provided for, in part India rubber or otherwise.....	60 p c	50 p c	60 p c
Lace window curtains, pillow shams, bed sets, finished or unfinished, made on the Nottingham lace curtain machines, or on the Nottingham warp machines, composed of cotton or other vegetable fiber, when counting five points or spaces between the warp threads to the inch	1 c sq yd & 20 p c	50 p c	60 p c
Counting more than five points or spaces to the inch in addition for each point to the inch in excess of five.....	$\frac{1}{2}$ c & 20 p c	50 p c	60 p c
None of the above to pay less than.....	50 p c	.....	.....
Pile fabrics, in which flax is of chief value	60 p c	35 p c	50 p c
Handkerchiefs, composed of flax, hemp, ramie, or other vegetable fiber, in the piece or otherwise, wholly or partly			

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
finished, not hemmed, or hemmed only	50 p c	40 p c	60 p c
If hemstitched, or imitation hemstitched, or revered, or with drawn threads, but not embroidered, or initialed....	55 p c	50 p c	60 p c
Woven fabrics, not provided for, of flax, hemp, or ramie in chief value, weighing $4\frac{1}{2}$ ozs. or more per sq. yd., when containing not more than 60 threads to sq. in.....	$1\frac{3}{4}$ c s.y. & 30 p c	35 p c	50 p c
Containing more than 60 and not more than 120 threads to sq. in.....	$2\frac{3}{4}$ c & 30 p c	35 p c	50 p c
Containing more than 120 and not more than 180 threads to sq. in.....	6 c & 30 p c	35 p c	50 p c
Containing more than 180 threads to sq. in.....	9 c & 30 p c	.....	.....
None of the foregoing woven fabrics less than.....	50 p c	.....	.....
Woven fabrics of flax, hemp, or ramie, or in which they are chief value, including such as is known as shirting cloth, weighing less than $4\frac{1}{2}$ oz. per sq. yd., and containing more than 100 threads to sq. in ...	35 p c	35 p c	50 p c
All such manufactures of flax, hemp, ramie, or other vegetable fiber, or in which they are chief value, not provided for	45 p c	35 p c	50 p c

Schedule K—Wool and Manufactures of Wool.

All wools, hair of the camel, goat, alpaca, and other like animals shall be divided, for the purpose of fixing the duties to be charged thereon, into the three following classes:

Class one, that is to say, merino, mestiza, metz, or metis wools, or other wools of merino blood, immediate or

remote, down ~~clothing~~ wools, and wools of like character with any of the preceding, including Bagdad wool, China lamb's wool, Castle Branca, Adrianople skin wool, or butcher's wool, and such as have been heretofore usually imported into the United States from Buenos Ayres, New Zealand, Australia, Cape of Good Hope, Russia, Great Britain, Canada, Egypt, Morocco, and elsewhere, and all wools not hereinafter described or designated in classes two and three.

Class two, that is to say, Leicester, Cotswold, Lincolnshire, down combing wools, Canada long wools, or other like combing wools of English blood, and usually known by the terms herein used, and also hair of the camel, Angora goat, alpaca, and other like animals.

Class three, that is to say, Donskoi, native South American, Cordova, Valparaíso, native Smyrna, Russian camel's hair, and all such wools of like character, as have been heretofore usually imported into the United States from Turkey, Greece, Syria, and elsewhere, excepting improved wools hereinafter provided for.

The standard samples of all wools which are now or may be hereafter deposited in the principal custom-houses of the United States, under the authority of the Secretary of the Treasury, shall be the standard for the classification of wools under this act, and the Secretary of the Treasury is authorized to renew these standards, and to make such additions to them from time to time as may be required, and he shall cause to be deposited like standards in other custom-houses of the United States when they may be needed.

Whenever wools of class three shall have been improved by the admixture of merino or English blood from their present character, as represented by the standard samples now or hereafter to be deposited in the principal custom-houses of the United States, such improved wools shall be classified for duty either as class one or as class two, as the case may be.

The duty on wools of the first class which shall be imported washed shall be twice the amount of the duty to which they would be subjected if imported unwashed, and the duties on wools of the first and second classes which shall be imported scoured shall be three times the duty to which they would be subjected if imported unwashed. The duty on wools of the third class if imported in condition for use in carding or spinning into yarns, or which shall not contain more than 8 per cent. of dirt or other foreign substance, shall be three times the duty to which they would otherwise be subjected.

Unwashed wools shall be considered such as shall have been shorn from the sheep without any cleansing—that is, in their natural condition. Washed wools shall be considered such as have been washed with water only on the

sheep's back or on the skin. Wools of the first and second classes washed in any other manner than on the sheep's back or on the skin shall be considered as scoured wool.

The duty upon wool of the sheep, or hair of the camel, Angora goat, alpaca, and other like animals of class one and class two, which shall be imported in any other than ordinary condition, or which has been sorted or increased in value by the rejection of any part of the original fleece, shall be twice the duty to which it would be otherwise subject; provided, that skirted wools, as imported in 1890 and prior thereto, are hereby excepted.

The duty upon wool of the sheep, or hair of the camel, Angora goat, alpaca, and other like animals of any class which shall be changed in its character or condition for the purpose of evading the duty, or which shall be reduced in value by the admixture of dirt or any other foreign substances, shall be twice the duty to which it would be otherwise subject.

When the duty assessed upon any wool equals three times or more that which would be assessed if said wool was imported unwashed, the duty shall not be doubled on account of the wool being sorted.

If any bale or package of wool or hair specified in this act, imported as of any specified class, or claimed by the importer to be dutiable as of any specified class, shall contain any wool or hair subject to a higher rate of duty than the class so specified, the whole bale or package shall be subject to the highest rate of duty chargeable on wool of the class subject to such higher rate of duty, and if any bale or package be claimed by the importer to be shoddy, mungo flocks, wool, hair, or other material of any class specified in this act, and such bale contain any admixture of any one or more of said materials or any other material, the whole bale or package shall be subject to duty at the highest rate imposed upon any article in said bale or package.

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Wools and hair of the first class	11c lb	Free	11c
Wools and hair of the second class	12c	Free	12c
Wools of the third class and camel's hair of the third class, valued at 12c or less.	4c	Free	32 pc
Wools of the third class and camel's hair of the third class, valued above 12c.....	7c	Free	50 pc

The duty on wools on the skin shall be 1c less per pound than is imposed on other wools of the same class.

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Top waste, slubbing waste, roving waste, ring waste, and garneted waste.....	30c lb	Free	30c
Shoddy	25c	15c	30c
Noils wool extract, yarn waste, thread waste, and all waste wholly or part of wool, not provided for.....	20c	Free	30c
Woolen rags, mungo and flocks	10c	Free	10c
Wool and hair, advanced beyond washed or scoured condition, not provided for, shall be subject to same duties as imposed on manufactures of wool not specially provided for.			
Yarns wholly and in part of wool valued at not more than 30c per lb	27½c & 40 p c	30 p c	.....
Valued at more than 30c.....	38½c & 40 p c	30 or 40 p c	.....
Cloths, knit fabrics and all manufactures wholly or part of wool, not provided for, valued at not more than 40c per lb..	33c & 50 p c	40c	.....
Valued above 40c and not above 70c per lb	44c & 50 p c	40c or 50 p c	.....
Valued at over 70c.....	44c & 55 p c	Free	.....

The McKinley law provided on woolen or worsted cloths, shawls, knit fabrics and all fabrics made on knitting machines and frames, and all manufactures of every description made wholly or in part of wool, worsted, hair of camel, goat, alpaca, or other animal, not specially provided for, valued at not more than 30 cents a pound, the duty shall be three times the duty imposed on a pound of unwashed wool of the first class, and in addition 45 per cent.; valued at more than 30 cents and not more than 40 cents a pound, the duty shall be three and one-half times that on unwashed wool of the first class, and in addition 40 per cent.; valued above 40 cents a pound, the duty shall be four times that on unwashed wool of the first class, and in addition thereto 50 per cent.

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Blankets, and flannels for underwear, composed wholly or in part of wool, valued at not more than 40c lb	22c lb & 30 p c	25 or 30 p c	.....
Valued at more than 40c and not more than 50c lb.....	33c & 35 p c	35 p c	.....
Valued at more than 50c lb....	33c & 40 p c	35 p c	.....

Flannels valued above 50 cents a pound shall pay the same as women's and children's dress goods, etc.

Blankets over three yards in length pay same duty as on cloths.

The McKinley law provided on blankets, hats of wool, and flannels for underwear, composed wholly or in part of wool, etc., valued at not more than 30 cents a pound, the duty per pound shall be the same as that imposed on one and one-half pounds of unwashed wool of the first class, and in addition 30 per cent. ; valued at more than 30 cents and not more than 40 cents per pound, twice the duty on unwashed wool of the first class; valued at more than 40 cents, and not more than 50 cents a pound, three times the duty on unwashed wool of the first class, and in addition on all the above named 35 per cent. ; on blankets and hats of wool, etc., valued at more than 50 cents a pound, three and one-half times the duty on unwashed wool of the first class, and 40 per cent. Flannels composed wholly or in part of wool, etc., valued above 50 cents a pound, shall be classed and pay the same duty as women's and children's dress goods, coat linings, Italian cloths, and goods of similar character and description

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Women's and children's dress goods, coat linings, Italian cloths, and goods similar, of which warp is wholly of cotton, or other vegetable material, with remainder wholly or partly wool, valued at not exceeding 15c sq. yard.....	7c sq yd & 50 p c	40 p c	7c & 40 p c
Valued at more than 15c sq. yd.	8c & 50 p c	40 or 50 p c	8c & 50 p c

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
Valued above 70c per lb.....	55 p c	40 or 50 p c	8c & 50 p c
Provided that on foregoing weighing over 4 oz. per sq. yd. the duty shall be the same as imposed in schedule on cloths.			
Women's and children's dress goods, coat linings, Italian cloths, bunting, and similar goods, wholly or in part of wool, not provided for.....	11c s y & 50 p c	40 or 50 p c	12c & 50 p c
Valued not above 70c per lb...	50 p c	40 or 50 p c	12c & 50 p c
Valued above 70c per lb.....	55 p c	40 or 50 p c	12c & 50 p c
The foregoing, weighing over 4 oz. per sq. yd., the duty shall be the same as imposed in schedule on cloths.			
Clothing, ready made, and ar- ticles of wearing apparel of every description, including shawls, knitted or woven, and knitted articles of every de- scription, made up of manu- factured, wholly or in part, felts not woven and not spe- cially provided for, wholly or in part of wool.....	44c & 60 p c	45 or 50 p c	49½c & 60 p c
Webbings, gorings, suspenders, braces, beltings, bindings, braids, galloons, fringes, gimps, cords, cords and tas- sels, dress trimmings, laces and embroideries, head nets, buttons, or barrel buttons, or buttons of other forms, for tassels or ornaments, and manufactures of wool orna- ments with beads or spangles, made of wool, etc., or of which wool, etc., is a com- ponent material, in part India rubber or otherwise.....	50c lb & 60 p c	50 p c	60c & 60 p c

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
Aubusson, Axminster, moquette, and chenille carpets, figured or plain, and all carpets of like character or description.....	60c s y & 40 p c	40 p c	60c & 40 p c
Saxony, Wilton, and Tournay velvet carpets, figured or plain, and all carpets and carpetings of like character and description.....	60c & 40 p c	40 p c	60c & 40 p c
Brussels carpets, figured or plain, and all carpets and carpeting of like description.	44c s y & 40 p c	40 p c	44c & 40 p c
Velvet and tapestry carpets, figured or plain, printed on the warp or otherwise, and all carpets or carpeting of like character or description.....	40c & 40 p c	40 p c	40c & 40 p c
Tapestry Brussels, figured or plain, and all carpets or carpeting of like description, printed on the warp or otherwise.....	28c & 40 p c	42½ p c	28c & 40 p c
Treble ingrain, three-ply, and all chain Venetian carpets...	22c & 40 p c	32½ p c	19c & 40 p c
Wool, Dutch, and two-ply ingrain carpets.....	18c & 40 p c	30 p c	19c & 40 p c
Carpets woven whole for rooms, and Oriental, Berlin, etc., and similar rugs	10c s ft & 40 p c	40 p c	50 p c
Druggets and bockings, printed, colored, or otherwise....	22c s y & 40 p c	30 p c	22c & 40 p c
Carpets and carpeting of wool, flax or cotton, or composed in parts of either, not specially provided for.....	50 p c	30 p c	50 p c

Mats, rugs, screens, covers, hassocks, bed sides, art squares, and other portions of carpets or carpeting, made

wholly or in part of wool, and not specially provided for, shall be subject to the rate of duty imposed on carpets or carpeting of like description.

Whenever in any schedule of this act a duty is provided for or imposed on any goods, wares, or merchandise composed wholly or in part of wool, the word "wool" shall be held to include wool or hair of the sheep, camel, goat, alpaca, or other animal, whether prepared by the woolen, worsted, felt, or any other process of manufacture.

Schedule L—Silks and Silk Goods.

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Silk partially manufactured from cocoons or from waste silk, and not further advanced or manufactured than carded or combed silk.....	40c lb	20 p c	50c
Thrown silk, not more advanced than singles, tram, organzine, sewing silk, twist, floss, and silk threads or yarns of every description, except spun silk	30 p c	30 p c	30 p c
Spun silk in skeins, cops, warps or on beams, valued at not exceeding \$1 per lb.....	20c lb & 15 p c	30 p c	35 p c
Valued at over \$1 per lb and not exceeding \$1.50 per lb...	30c & 15 p c	30 p c	35 p c
Valued at over \$1.50 lb and not exceeding \$2 per lb.....	10c & 15 p c	30 p c	35 p c
Valued at over \$2 per lb and not exceeding \$2.50 per lb...	50c & 15 p c	30 p c	35 p c
Valued at over \$2.50 per lb....	60c & 15 p c	30 p c	35 p c

But in no case shall the foregoing articles pay a less rate of duty than 35 p c.

Velvets, velvet or plush ribbons, chenilles or other pile fabrics, composed of silk or of which silk is the component material of chief value, cut or uncut, not provided for	\$1.50 lb & 15 p c	\$1.50	\$1.50 & 15 p c
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ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
Plushes, composed of silk, or of which silk is the component material of chief value.....	\$1 & 15 p c	\$1	\$1.50 & 15 p c
In no case shall foregoing pay less than 50 p c.			
Woven fabrics, in the piece, not provided for, weighing not less than 1½ oz. per sq. yard, and not more than 8 oz. per square yard, and containing not more than 20 p c in weight of silk, if in the gum.	50c lb	45 p c	50 p c
If dyed in the piece.....	60c lb	45 p c	50 p c
If containing more than 20 p c and not more than 30 p c in weight of silk, if in the gum.	65c	45 p c	50 p c
If dyed in the piece.....	80c	45 p c	50 p c
If containing more than 30 and not more than 45 p c in weight of silk, if in the gum.....	90c	45 p c	50 p c
If dyed in the piece.....	\$1.10	45 p c	50 p c
If dyed in the thread or yarn and containing not more than 30 p c in weight of silk, if black (except selvages)	75c	45 p c	50 p c
If other than black.....	90c	45 p c	50 p c
If containing more than 30 and not more than 45 p c in weight of silk, if black (except selvages)	\$1.10	45 p c	50 p c
If other than black.....	\$1.30	45 p c	50 p c
If containing more than 45 p c in weight of silk, or if composed wholly of silk, if dyed in the thread or yarn, and weighted in the dyeing so as to exceed the original weight of the raw silk, if black (except selvages)	\$1.50	45 p c	50 p c
If other than black.....	\$2.25	45 p c	50 p c
If dyed in the thread or yarn, and the weight is not increased by dyeing beyond the original weight of raw silk. . .	\$3	45 p c	50 p c
If in the gum.....	\$2.50	45 p c	50 p c
If boiled off, or dyed in the piece, or printed	\$3	45 p c	50 p c

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
If weighing less than $1\frac{1}{2}$ ozs. and more than $\frac{1}{2}$ oz. per sq yd, if in the gum or if dyed in the thread or yarn.....	\$2.50	45 p c	50 p c
If weighing less than $1\frac{1}{2}$ ozs. and more than $\frac{1}{2}$ oz. per sq yd, if boiled off.....	\$3	45 p c	50 p c
If dyed or printed in the piece	\$3.25	45 p c	50 p c
If weighing not more than $\frac{1}{3}$ oz. per sq yd.....	\$4.50	45 p c	50 p c

In no case shall any of such fabrics pay less duty than 50 per cent.

Handkerchiefs or mufflers composed wholly or in part of silk, whether in the piece or otherwise, finished or unfinished, if not hemmed or hemmed only, shall pay the same rate of duty as is imposed on goods in the piece, of the same description, weight, and condition as provided for in this schedule; but such handkerchiefs or mufflers shall not pay a less rate of duty than 50 per cent. ad valorem. If such handkerchiefs or mufflers are hemstitched or imitation hemstitched, or revered, or have drawn threads, or are embroidered in any manner, whether with an initial letter, monogram, or otherwise, by hand or machinery, or are tamboured, appliqued, or are made or trimmed wholly or in part with lace or with tucking or insertion, they shall pay a duty of 10 per cent. ad valorem in addition to the duty hereinbefore prescribed, and in no case less than 60 per cent. ad valorem.

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Bandings, bindings, beltings, bone casings, braces, cords, cords and tassels, garters, gorings, suspenders, tubings and webbings, composed wholly or in part of silk, whether composed in part of India rubber or otherwise, if not embroidered by hand or machinery.....	50 p c	45 p c	50 p c
Laces and articles made wholly or in part of lace edgings, insertings, galloons, chiffon or other flouncings, nets or nettings, and veilings, neck ruf-			

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
flings, ruchings, braids, fringes, trimmings, embroideries, and articles embroidered by hand or machinery, tambooured, or applique, clothing ready made, and articles of wearing apparel of every description, including knit goods, made up or manufactured, in whole or in part, by the tailor, seamstress, or manufacturer. All the above named articles made of silk or of which silk is the chief component material, of value not specially provided for, and silk goods ornamented with beads or spangles, of whatever material composed. Proviso—	60 p c	50 p c	60 p c
That any wearing apparel or other articles provided for in this paragraph (except gloves) when composed in part of India rubber, shall be subject to a duty of.....	60 p c	50 p c	8c oz & 60 p c
All manufactures of silk, or of which silk is the component material of chief value, including such as have India rubber as a component material, not specially provided for, and all jacquard figured goods in the piece, made on looms, of which silk is of chief value, dyed in the yarn and containing two or more colors in the filling	50 p c	45 p c	50 p c

Schedule M—Pulp, Papers, and Books.

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Mechanically ground wood pulp, dry weight.....	1-12c lb	10 p c	\$2.50 ton
Chemical wood pulp, unbleached, dry weight.....	1-6c lb	10 p c	~~\$2.50~~ ton
Bleached, dry weight.....	~~4c~~	10 p c	\$7 ton
If export duty is imposed by any country, it shall be added to imports from that country.			
Sheathing paper and roofing felt	10 p c	10 p c	10 p c
Filter masse, wholly or in part wood, wood flour, or other vegetable fiber.....	1½c & 15 p c	35 p c	.....
Printing paper, unsized, sized, or glued, suitable only for books and newspapers, valued not above 2c per lb.....	3-10c lb	15 p c	15 or 20 p c
Valued above 2c, not above 2½c	4-10c lb	15 p c	15 or 20 p c
Valued above 2½c, and not above 3c.....	5-10c lb	15 p c	15 or 20 p c
Valued above 3c, and not above 4c.....	6-10c lb	15 p c	15 or 20 p c
Valued above 4c, and not above 5c.....	8-10c lb	15 p c	15 or 20 p c
Valued above 5c per lb	15 p c	15 p c	15 or 20 p c
From countries imposing export duty on pulp wood, for each \$1 of export duty per cord so imposed, and proportionately for fractions additional.....	1-10c lb	.....	.....
Papers commonly known as copying paper, stereotype, bibulous, tissue, pottery paper, and all similar papers, white, colored, or printed, weighing not over 6 lbs to the ream of 480 sheets, on			

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
a basis of 20x30 inches in ream or other form.....	6c lb & 15 p c	35 p c	8c & 15 p c
Weighing over 6 lbs and not over 10 lbs to ream, and let- ter copying books, whether wholly or partly manufac- tured.....	5c & 15 p c	35 p c	8c & 15 p c
Crepe paper and filtering paper	5c & 15 p c	35 p c	8c & 15 p c
Surface coated papers not pro- vided for	2½c lb & 15 p c	30 p c	35 p c
If printed, wholly or partly covered with metal or its so- lutions, or with gelatin or flock	3c & 20 p c	30 p c	35 p c
Parchment papers	2c & 10 p c	30 p c	35 p c
Plain, basic, photographic pa- pers for albumenizing, sensi- tizing, or baryta coating.....	3c & 10 p c	30 p c	35 p c
Albumenized or sensitized, or paper otherwise surface coat- ed for photographic purposes	30 p c	30 p c	35 p c
Lithographic prints from stones, zinc, aluminum, or other material, bound or un- bound (except cigar labels and bands, lettered or blank; music and illustrations, when forming a part of a periodical or newspaper and accom- panying the same, or if bound in or forming part of print- ed books), on paper or other material not exceeding 8-1000 of an inch in thickness.....	20c lb	20c	35 p c
On paper or other material ex- ceeding 8-1000 of an inch, and not exceeding 20-1000 of an inch in thickness, and exceed- ing 35 square inches, but not exceeding 400 square inches, cutting size and dimensions..	8c	8c	35 p c

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Exceeding 400 square inches, cutting size and dimensions..	35 p c	8c	35 p c
Prints exceeding 8-1000 of an inch, and not exceeding 20-1000 of an inch in thickness and not exceeding 35 square inches, cutting size and dimensions.....	5c	5c	35 p c
Lithographic prints from stone, zinc, aluminum, or other material on cardboard or other material exceeding 20-1000 of an inch in thickness.....	6c	6c	35 p c
Lithographic cigar labels and bands, lettered or blank, printed from stone, zinc, aluminum, or other material, if printed in less than eight colors (bronze printing to be counted as two colors), but not including labels printed in whole or in part in bronze or metal leaf.....	20c	20c	35 p c
If printed in whole in bronze...	15c	30c	35 p c
If printed in eight or more colors, but not including printed in whole or part in metal leaf	30c	30c	35 p c
If printed in whole or in part in metal leaf	50c	40c	35 p c
Books for children's use, with illuminated lithographic prints, not exceeding 24 ozs, and periodicals printed in whole or in part by lithographic process or decorated by hand.....	8c lb	Free	35 p c
Writing, note, letter, hand-made, drawing, ledger, bond, record, tablet, and typewriter paper, weighing not less than 10 lbs and no more than 15 lbs to the ream.....	2c lb & 10 p c	20 p c	25 p c
Weighing more than 15 lbs to the ream	3½c & 15 p c	20 p c	25 p c
But if any such paper is ruled, bordered, embossed, printed,			

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
or decorated in any manner, it shall pay in addition to the foregoing rates.....	10 p c	20 p c	25 p c
Paper hangings and paper for screens and all other paper not provided for.....	25 p c	20 p c	25 p c
Jacquard designs of one-line paper, or designs cut on jacquard cards, or parts, finished or unfinished.....	35 p c	20 p c	25 p c
Books of all kinds, including blank books and pamphlets, and engravings, bound and unbound, photographs, etchings, maps, charts, music in books or sheets, and printed matter, all such not provided for	25 p c	25 p c	25 p c
Photograph, autograph, and scrap albums, wholly or partly manufactured.....	35 p c	30 p c	35 p c
All fancy boxes of paper, or in which paper is chief value, or if covered with surface coated paper.....	45 p c	30 p c	35 p c
Playing cards in packs not exceeding 54 cards, and at a like rate for any number in excess.....	10c pk & 20 p c	10c & 50 p c	50c
Manufactures of paper or in which paper is chief value, not provided for	35 p c	20 p c	25 p c

Schedule N—Sundries.

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Beads of all kinds not threaded or strung.....	35 p c	20 p c	10 p c
Fabrics, nets, or nettings, laces, galloons, wearing apparel, and articles not provided for, wholly or in part of beads or spangles made of glass or paste, gelatine, metal, or			

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
other material, but not composed in part of wool.	60 p c	35 p c	.....
Braids, plaits, laces, and willow sheets or squares composed wholly of straw, chip, grass, palm leaf, willow, osier, or rattan, suitable for making or ornamenting hats, bonnets, or hoods not bleached, dyed, or stained	15 p c	Free	Free
If bleached, dyed, or stained..	20 p c	Free	Free
Hats, bonnets, and hoods, composed of straw, chip, grass, palm leaf, willow, osier, or rattan, whether wholly or partly manufactured, but not trimmed.....	35 p c	Free	Free
If trimmed	50 p c	Free	Free
But the terms "grass" and "straw" shall be understood to mean these substances in their natural form and structure, and not the separated fiber thereof.			
Brushes, brooms, and feather dusters, hair pencils, in quills or otherwise.....	40 p c	35 p c	40 p c
Bristles, sorted, bunched, or prepared.....	7 ¹ / ₂ c lb	7 ¹ / ₂ c lb	7 ¹ / ₂ c lb
Trousers buckles, wholly or partly of iron or steel, or parts, valued at more than 15c per 100.....	5c 100 & 15 p c	35 p c	.....
Valued at more than 15c and not more than 50c per 100 ...	10c & 15 p c	35 p c	.....
Buttons and Button Forms—			
Button forms, lastings, mohair, cloth, silk, or other manufactures of cloth, woven or made in patterns, of such sizes, shape, or form, or cut in such manner as to be fit for buttons exclusively	10 p c	10 p c	10 p c
Buttons, or parts, and molds, finished or unfinished, the line, button measure, being ¹ / ₄ in., viz.:			
Buttons known as agate metal trousers buttons, except steel			

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
and nickel bar, per line, per gross.....	1-12c & 15 p c	25 p c	25 p c
Of bone and steel trousers button, per line, per gross.....	14c & 15 p c	25 p c	25 p c
Pearl, or shell.....	1 1/2c & 15 p c	1c & 15 p c	2 1/2c & 25 p c
Horn, vegetable ivory, glass, or metal, not provided for.....	34c & 15 p c	35 p c	50 p c
Shoe buttons, of paper, pulp, or similar material, not provided for, value not exceeding 3c. gross.....	1c gross	25 p c	50 p c
Buttons, not provided for, and collar and cuff buttons and studs.....	50 p c	35 p c	50 p c
Coal, bituminous, and all coals containing less than 92 per cent. fixed carbon, and shale	67c ton	40c	75c
Slack, such as will pass through 1/2-inch screen.....	15c	15c	30c
Coke.....	20 p c	15 p c	20 p c
Cork bark, cut into squares or cubes.....	8c lb	Free	10c
Manufactured cork, over 3/4 in. in diameter at larger end....	15c	10c	15c
Measuring 3/4 in. and less in diameter.....	25c	10c	15c
Artificial or cork substitutes, from cork waste, not provided for.....	8c	10c	15c
Dice, draughts, chessmen, chess balls, and billiard, pool, and bagatelle balls, of ivory, bone, or other materials.....	50 p c	50 p c	50 p c
Dolls, doll heads, toy marbles, of whatever materials composed, and all other toys not composed of rubber, china, porcelain, parian, bisque, earthen or stone ware, and not specially provided for...	35 p c	25 p c	35 p c
Emery grains and emery manufactures, ground, pulverized, or refined.....	1c lb	8-10c	1c

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Emery wheels and emery files, and manufactures in which emery is chief value	25 p c	8-10c	1c
Explosive Substances—			
Firecrackers of all kinds, the weight to include all wrapping and packing materials..	8c lb	50 p c	8c
Fulminates, fulminating powders, and like articles, not provided for.....	30 p c	30 p c	30 p c
Gunpowder and all explosive substances used for mining, blasting, artillery, or sporting purposes, when valued at 20c or less per lb.....	4c lb	5c	8c
Valued above 20c.....	6c	8c	8c
Matches, friction or lucifer, of all descriptions, per gross of 144 boxes, containing not more than 100 matches per box, per gross.....	8c	20 p c	10c
When imported otherwise than in boxes containing not more than 100 matches each, per 1,000	1c	20 p c	1c
Percussion caps.....	30 p c	30 p c	40 p c
Cartridges	35 p c	30 p c	40 p c
Blasting caps, per 1,000	\$2.36	\$2.07	40 p c
Feathers and down of all kinds, including bird skins or parts thereof, with the feathers on, crude or not dressed, colored, or otherwise advanced or manufactured in any manner not provided for.....	15 p c	35 p c	10 p c
When dressed, colored, or otherwise advanced or manufactured in any manner, including quilts of down and other manufactures of down, and also dressed and finished birds, suitable for millinery ornaments, and artificial or ornamental feathers, fruits, grains, leaves, flowers, and stems or parts thereof, of whatever material composed, not provided for	50 p c	35 p c	50 p c

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
Furs, dressed on the skins, but not made up in to articles, and furs not on the skin, prepared for hatters' use, including fur skins carroted	20 p c	20 p c	20 p c
Fans of all kinds, except common palm leaf fans	50 p c	40 p c	Various
Gun wads of all descriptions...	20 p c	10 p c	35 p c
Hair, human, if clean or drawn, but not manufactured	20 p c	20 p c	20 p c
Hair, curled, suitable for beds or mattresses.....	10 p c	10 p c	15 p c
Hair cloth, or crinoline cloth..	10c s yd	6c	6c
Hair cloth, known as "hair seating" and hair press cloth.	20c s yd	20c	30c
Hats, bonnets or hoods for men's, women's, boys', or children's wear, trimmed or untrimmed, including bodies, hoods, plateaux forms, or shapes for hats or bonnets, composed wholly or in chief value of fur of the rabbit, beaver, or other animals, valued at not more than \$5 per doz.....	\$2 doz & 20 p c	40 p c	55 p c
Valued at more than \$5 per doz and not more than \$10 per doz.....	\$3 & 20 p c	40 p c	55 p c
Valued at more than \$10 and not more than \$20 per doz...	\$5 & 20 p c	40 p c	55 p c
Valued at more than \$20 per doz.....	\$7 & 20 p c	40 p c	55 p c
Indurated fiber ware and manufactures of wood, or other pulp, and not provided for...	35 p c	20 p c	35 p c
Jewelry and Precious Stones—			
Articles known as jewelry, and parts, finished or unfinished, not provided for, including precious stones set, pearls set, and cameos in frames.....	60 p c	35 p c	60 p c

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
Diamonds and other precious stones advanced in condition of value from a natural state by cleaving, splitting, cutting, or other process and not set.....	10 p c	25 p c	10 p c
Imitations of diamonds and other precious stones, composed of glass or paste, not exceeding an inch in dimensions, not engraved, painted, or otherwise ornamented or decorated, and not mounted or set.....	20 p c	10 p c	10 p c
Pearls in their natural state, not strung or set.....	10 p c	10 p c	10 p c
Leather and Manufactures of—			
Hides of cattle, raw or uncured, dry, salted or pickled.....	15 p c	Free	Free
Band or belting leather, sole leather, dressed upper and all other leather, calf skins, tanned or dressed, kangaroo, sheep, and goat skins (including lamb and kid skins), dressed and finished, cham- ois and other skins, and bookbinders' calfskin, all not provided for.....	20 p c	20 p c	20 p c
Skins for morocco, tanned, but unfinished.....	10 p c	10 p c	10 p c
Patent, japanned, varnished, or enameled leather, weighing not over 10 lbs per doz. hides.	30c lb & 20 p c	20 p c	30 p c
Weighing over 10, and not over 25 lbs per doz.....	30c & 10 p c	20 p c	30 p
Weighing over 25 lbs per doz..	20c & 10 p c	20 p c	30 p c
Pianoforte leather and action leather.....	35 p c	20 p c	35 p
Leather shoe laces, finished or unfinished.....	50c grs prs & 20 p c	30 p c	35 p

ARTICLES.	Dingley Law.	Wilson Law.	McKin- ley Law
Boots and shoes made of leather.....	25 p c	20 p c	25 p c
Leather cut in forms for manu- factured articles classed as manufactures of leather.....	.....	.....	.....
Gloves, wholly or in part of leather, the length being measure when stretched to full extent.....	.....	.....	.....
Women's or children's "glace" finish, schmaschen (of sheep origin), not over 14 inches in length, per doz. pairs.....	\$1.75	\$1	\$1.75
Over 14 inches and not over 17 inches.....	\$2.25	\$1.50	\$2.25
Over 17 inches.....	\$2.75	\$2	\$3.25
Men's glace finish, schmaschen (sheep).....	\$3	\$3	50 p c
Women's or children's glace finish, lamb or sheep, not over 14 inches in length.....	\$2.50	\$1.75	\$3.25
Over 14 and not over 17 inches	\$3.50	\$2.75	\$3.25
Over 17 inches.....	\$4.50	\$3.75	50 p c
Men's glace finish, lamb or sheep.....	\$4	\$4	\$1 & 50 p c
Women's or children's glace finish, goat, kid, or other leather than of sheep origin, not over 14 inches in length..	\$3	\$2.25	50 p c
Over 14 and not over 17 inches in length.....	\$3.75	\$3	50 p c
Over 17 inches.....	\$4.75	\$4	50 p c
Men's glace finished, kid, goat, or other leather than of sheep origin.....	\$4	\$4	\$1 & 50 p c
Women's or children's, of sheep origin, with exterior grain surface removed, by what- ever name known, not over 17 inches in length.....	\$2.50	\$1.75	50 p c
Over 17 inches.....	\$3.50	\$2.75	50 p c
Men's, of sheep origin, with exterior surface removed....	\$4	\$4	\$1 & 50 p c

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
Women's or children's kid, goat, or other leather than of sheep origin, with exterior grain surface removed, not over 14 inches in length.....	\$3	\$2.25	50 p c
Over 14 and not over 17 inches	\$3.75	\$3	50 p c
Over 17 inches.....	\$4.75	\$4	50 p c
Men's goat, kid, or other leather than of sheep origin, with exterior surface removed.....	\$4	\$4	\$1 & 50 p c
In addition to foregoing rates on leather gloves, when lined, per doz. pairs.....	\$1	\$1	\$1
On all pique or prix seam gloves.....	40c	.....	50c
Gloves stitched, with more than 3 single strands.....	40c	.....	50c
Glove trunks, with or without the usual accompanying pieces, shall pay 75 per cent. of the duty provided for the gloves in the fabrication of which they are suitable.			
Harness, saddles, and saddlery, or parts of either in sets or in parts, finished or unfinished.	45 p c	20 p c	20 p c
Manufactures of amber, asbestos, bladders, cork, catgut or whipgut or wormgut, spar, wax, or of which these substances, or either of them, is a component material of chief value, not provided for	25 p c	25 p c	25 p c
Manufactures of bone, chip, grass, horn, India rubber, palm leaf, straw, weeds, or whalebone, not provided for.	30 p c	25 p c	30 p c
Manufactures of leather, finished or unfinished; manufactures of fur, gelatine, gutta percha, human hair, ivory, vegetable ivory, mother-of-pearl and shell, papier mache, and vulcanized India rubber, known as hard rubber, not specially provided for, and shells, engraved,			

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
cut, ornamented, or otherwise manufactured	35 p c	30 p c	35 p c
Masks, composed of paper, or pulp.....	35 p c	25 p c	35 p c
Matting made of cocoa fiber or rattan, per square yard	6c	20 p c	12c
Mats made of cocoa fiber or rattan, per square foot	4c	20 p c	8c
Musical instruments or parts thereof, piano-forte actions and parts thereof, strings for musical instruments, not otherwise enumerated, cases for musical instruments, pitch pipes, tuning forks, tuning hammers, and metronomes, strings for musical instruments, wholly or partly of steel or other metal.....	45 p c	25 p c	35 or 45 p c
Paintings in oil, water, pastel, pen drawings, statuary, not provided for.....	20 p c	Free	15 p c
Statuary includes such as is cut or otherwise wrought by hand from a solid mass or from metal, and is the professional production of a statuary or sculptor only.			
Peat moss.....	\$1 ton	Free	Free
Pencils, paper or wood, filled with lead or other material, and pencils of lead.....	45c grs & 25 p c	50 p c	50c & 30 p c
Slate pencils, covered with wood.....	35 p c	30 p c	40c grs & 10 p c
Other slate pencils.....	3c 100	30 p c	4c grs & 10 p c
Pencil leads, not in wood.....	10 p c	10 p c	10 p c
Photographic dry plates and films.....	25 p c	25 p c	60 p c
Common tobacco pipes and pipe bowls of clay, valued at not more than 40c per gross.	15c grs	10 p c	15c
Other tobacco pipes and pipe bowls of clay	50c & 25 p c	10 p c	15c
Other pipes and pipe bowls of whatever composed, and all smokers' articles not provided			

ARTICLES.	Dingley Law.	Wilson Law.	McKinley Law
for, including cigarette books and covers, pouches for tobacco, and cigarette paper in all forms	60 p c	50 p c	70 p c
Plows, tooth and disk harrows, harvesters, reapers, agricultural drills and planters, mowers, horse rakes, cultivators, thrashing machines, and cotton gins.....	20 p c	Various	Various
Plush, black, known as hatters', of silk, or silk and cotton, as is used for men's hats.....	10 p c	Free	10 p c
Umbrellas, parasols, and sun shades, covered with material other than paper.....	50 p c	45 p c	55 p c
Sticks for umbrellas, etc., and walking canes, finished or unfinished.....	40 p c	30 p c	35 p c
Waste not provided for.....	10 p c	10 p c	10 p c

FREE LIST.

Acids—Arsenic or arsenious, benzoic, carbolic, fluoric, hydrochloric, or muriatic, nitric, oxalic, phosphoric, phthalic, picric, or nitropicric; prussic, silicic, and valerianic.

Aconite; acorns raw, dried, or undried, but unground; agates, manufactured; alumen not specially provided for; alizaren, natural or artificial, and dyes derived from alizaren or from anthracen; amber and amberoid, unmanufactured or crude gum; ambergris, and analine salts.

Any animal imported specially for breeding purposes shall be admitted free, provided that no such animal shall be admitted free unless pure bred of a recognized breed and duly registered in the book of record established for that breed. Cattle, horses, sheep, and other domestic animals, strayed, or driven into a foreign country for temporary pasturage, may, with their increase, be returned within six months, free.

Animals brought into the United States temporarily for a period not exceeding six months for the purpose of exhibition or competition for prizes offered by any agricultural or racing

association; teams of animals, including their harness and tackle, and the wagons or other vehicles, actually owned by persons emigrating from foreign countries to the United States with their families, and in actual use for the purpose of such emigration, and wild animals intended for exhibition in zoological collections for scientific and educational purposes, and not for sale or profit.

Annotto, roucou, rocoa, or orleans, and all extracts of; antimony ore, crude sulphite of; apatite; arrow root in its natural state and not manufactured; arsenic and sulphide of, or opiment; arseniate of aniline; art educational stops, composed of glass and metal and valued at not more than 6 cents per gross.

Articles in a crude state used in dyeing or tanning, not specially provided for in this act.

Articles the growth, produce and manufacture of the United States, when returned after having been exported, without having been advanced in value or improved in condition by any process of manufacture or other means; casks, barrels, carboys, bags and other vessels of American manufacture exported filled with American products, or exported empty and returned filled with foreign products, including shooks and staves when returned as barrels or boxes; also quicksilver flasks or bottles, of either domestic or foreign manufacture, which shall have been actually exported from the United States, but the exemption of bags from duty shall apply only to such domestic bags as may be imported by the exporter thereof, and if any such articles are subject to internal tax at the time of exportation, such tax shall be proved to have been paid before exportation and not refunded. And, provided, That when manufactured tobacco which has been exported without payment of internal revenue tax shall be reimported, it shall be retained in the custody of the collector of customs until internal revenue stamps in payment of the legal duties shall be placed thereon. Asbestos unmanufactured; ashes, wood and lye of the beet root ashes; asafetida.

• Balm of Gilead; barks, cinchona or other from which quinine may be extracted; baryta, carbonate of, or witherite, and beeswax.

All binding twine manufactured from New Zealand hemp, istle or Tampico fibre, sisal grass, or sunn, or a mixture of any two or more

of them, of single ply and measuring not exceeding 600 feet to the pound. Provided, that articles mentioned in this paragraph, if imported from a country which lays an import duty on like articles imported from the United States, shall be subject to a duty of one-half of one cent per pound.

Bells, broken, and bell metal, broken and fit only to be manufactured; birds, stuffed, not suitable for millinery ornaments; birds and land and water fowls; bismuth; bladders and all integuments and intestines of animals and fish sounds, cured or salted for preservation only, and unmanufactured, not specially provided for; blood, dried not provided for; bolting cloth composed of silk, imported expressly for milling purposes, and so permanently marked as not to be suitable for any other use; bones, crude, or not burned, calcined, ground, steamed, or otherwise manufactured, and bone dust or animal carbon, and bone ash, its only for fertilizing purposes; books, engravings, photographs, etchings, bound or unbound, maps and charts imported for the use of the United States or the Library of Congress; books, maps, music, engravings, photographs, etchings, bound or unbound, and charts, which shall have been printed more than twenty years at the date of importation, and all hydrographic charts, and publications issued for their subscribers or exchanges by scientific or literary associations or academies, or publications of individuals for gratuitous private circulation, and public documents issued by foreign governments; books and pamphlets printed exclusively in languages other than English; also books and music in raised print, used exclusively by the blind; books, maps, music, photographs, etchings, lithographic prints, and charts specially imported, not more than two copies in any one invoice, in good faith, for the use or by order of any society or institution incorporated or established solely for religious, philosophical, educational, scientific, or literary purposes, or for the encouragement of the fine arts, or for the use or by order of any college, academy, school or seminary of learning in the United States, or any State, or public library, and not for sale, subject to such regulations as the Secretary of the Treasury shall prescribe; books, libraries, usual and reasonable furniture, and similar household effects of per-

sons or families from foreign countries, if actually used abroad by them for not less than one year, and not intended for any other person or persons, or for sale.

Brass, old brass, clippings from brass or Dutch metal, all the foregoing, fit only for manufacture; Brazil paste; Brazilian pebble, unwrought or unmanufactured; breccia, in block or slabs; bristles, crude, not sorted, bunched or prepared; broom corn; bullion, gold or silver; Burgundy pitch; cadmium; calamine; camphor, crude; castor, or castoreum; cat gut, whip gut, or worm gut, unmanufactured; cerium; chalk, crude, not ground, precipitated or otherwise manufactured; chromate of iron or chromic ore; civet, crude; common blue clay in casks, suitable for the manufacture of crucibles.

Coal, anthracite, not provided for, and coal stores of American vessels, but none shall be unloaded; coal tar, crude; pitch of coal tar and products of coal tar known as dead or creosote oil, benzoi, tolyol, naphthalin, xyol, phenol, cresol, toluidine, xylidin, cumidin, binitrotoluol, binitrobenzol, benzidin, tolidin, dionisidin, naphtol, naphtylamin, diphenylamin, benzaldehyde, benzyl, chloride, resorcin, nitrobenzol, and nitrotoluol; all the foregoing not medicinal and not colors or dyes.

Cobalt and cobalt ore; *cocculus indicus*; cochineal; cocoa, or cacao, crude and fibre, leaves and shells of; coffee, coins, gold, silver, and copper; coir and coir yarn; copper in plates, bars, ingots, or pigs, and other forms, not manufactured, or specially provided for; old copper, fit only for manufacture, clipping from new copper, and all composition metal of which copper is a component material of chief value not specially provided for in this act; copper, regulus of, and black or coarse copper, and copper cement; coral, marine, uncut, and unmanufactured; cork wood or cork bark, unmanufactured; cotton and cotton waste or flocks.

Cryolite or kryolith; cudbear; curling stones, or quoits, and curling stone handles; curry, and curry powder; cutch; cuttlefish bone.

Dandelion roots, raw, dried, or undried, but unground.

Diamonds and other precious stones, rough or uncut, and not advanced in condition or value from their natural state by cleaving, splitting, cutting, or other process, including miners' glaziers' and engravers' diamonds, not set, and

diamond dust or bort; divi-divi; dragon's blood.

Drugs, such as barks, beans, berries, balsams, buds, bulbs, and bulbous roots, excrescences, fruits, flowers, dried fibers, and dried insects, grains, gums, and gum resin, herbs, leaves, lichens, mosses, nuts, nutgalls, roots and stems, spices, vegetables, seeds aromatic, and seeds of morbid growth, weeds, and woods used expressly for dyeing; any of the foregoing which are not edible and are in a crude state, and not advanced in value or condition by refining or grinding or by other process, and not specially provided for.

Eggs of birds, fish and insects, not including eggs of game birds or eggs of birds not used for food, the importation of which is prohibited, except specimens for scientific collections; nor fish roe preserved for food purposes, emery ore, ergot; fans, common palm leaf, plain and not ornamented, and palm leaf in its natural state, not colored, or otherwise advanced in manufacture; felt, adhesive, for sheathing vessels, and fibrin in all forms.

Fish, fresh, frozen or packed in ice, caught in the Great Lakes or other fresh waters by citizens of the United States, fish skins, flint, flints and flint stones, unground; fossils; fruits, or berries, green, ripe, or dried, and fruits in brine, not provided for; fruit plants, tropical and semi-tropical, for the purpose of propagation or cultivation; furs, undressed; fur skins of all kinds not dressed in any manner, not provided for; gambler.

Glass enamel, white, for watch and clock dials; glass plates or disks, rough cut or unwrought, for use in the manufacture of optical instruments, spectacles and eyeglasses, and suitable only for such use; provided, however, that such disks, exceeding eight inches in diameter may be polished sufficiently to enable the character of the glass to be determined.

Grasses and fibres—Istle or Tampico fibre, jute, jute butts, manila, sisal grass, sunn, and all other textile grasses or fibrous vegetable substances, not manufactured or dressed in any manner, and not specially provided for in this act.

Goldbeaters' molds and goldbeaters' skins—Grease and oils (excepting fish oils), such as are commonly used in soap making or in wire drawing, or for stuffing or dressing leather, and

which are fit only for such uses, and not specially provided for in this act.

Guano, manures, and all substances used only for manure; gutta percha, crude.

Hair of horse, cattle, and other animals, cleaned or uncleaned, drawn or undrawn, but manufactured, not specially provided for in this act; and human hair, raw, uncleaned, and not drawn; hide cuttings, raw, with or without hair; and all other glue stock; hide rope; hones, and whetstones; hoofs, unmanufactured; hop roots for cultivation; horns and parts of, unmanufactured, including horn strips and tips.

Ice, India rubber, crude, and milk of, and old scrap or refuse India rubber which has been worn out by use and fit only for remanufacture; indigo, iodine, crude; ipecac, iridium, ivory tusks in their natural state or cut vertically across the grain only with the bark left intact, and vegetable ivory in the natural state.

Jalap, jet, unmanufactured; Joss stick or Joss light; junk, old.

Kelp, kieserite, kyanite, or cyanite, and kainite.

Lac dye, crude, seed, button, stick and shell; lac spirits; lactarene; lava, unmanufactured; leeches, lemon juice, lime juice, and sour orange juice; licorice root, unground; lifeboats and life-saving apparatus specially imported by societies incorporated or established to encourage the saving of human life; lime, citrate of; lithographic stones, not engraved; litmus, prepared or not prepared; lodestones.

Madder and munjeet, or Indian madder, ground or prepared, and all extracts of it; magnesite, crude or calcined, not purified; magnesium, not made up in articles; manganese, oxide and ore of; manna, manuscripts.

Marrow, crude; marshmallow or althea root, leaves or flowers, natural or unmanufactured; medals of gold, silver, or copper, and other metallic articles actually bestowed as trophies or prizes, and received and accepted as honorary distinctions; meerschaum, crude or unmanufactured.

Minerals, crude, or not advanced in value or condition by refining or grinding, or by other process of manufacture, not specially provided for in this act; mineral salts obtained by evaporation from mineral waters, when accompanied by a duly authenticated certificate and satisfactory proof, showing that they are in no way arti-

pecially prepared, and are only the product of a designated mineral spring.

Models of inventions and of other improvements in the arts, including patterns for machinery, but no article shall be deemed a model or pattern which can be fitted for use otherwise.

Moss, seaweeds, and vegetable substances, crude or unmanufactured, not otherwise specially provided for in this act; musk, crude, in natural pods; myrobolans; needles, hand sewing, and darning.

Newspapers and periodicals; but the term "periodicals" as herein used shall be understood to embrace only unbound or paper covered publications issued within six months of the time of entry, containing current literature of the day, and issued regularly at stated periods, as weekly, monthly, or quarterly.

Brazil nuts, cream nuts, palm nuts, and palm nut kernels; cocoanuts in the shell and broken cocoanut meat or copra, not shredded, desiccated, or prepared in any manner; nux vomica; oakum; oil cake.

Oils: Almond, amber, crude and rectified ambergris, anise or anise seed, aniline, aspic or spike lavender, bergamot, cajeput, caraway, cassia, cinnamon, cedrat, chamomile, citronella, or lemon grass, civet, cocoanut, fennel, ichthyol, jasmine, or jessamine, juglandium, juniper, lavender, lemon, limes, mace, neroli, or orange flower, enfleurage grease, nut oil, or oil of nuts not otherwise specially provided for in this act, orange oil, olive oil for manufacturing or mechanical purposes fit only for such use and valued at not more than 60 cents per gallon, ottar of roses, palm, rosemary or anthoss, sesame or sesamum seed or bean, thyme, origanum red or white, valerian; and also spermaceti, whale, and other fish oils of American fisheries, and all fish and other products of such fisheries; petroleum, crude or refined: Provided, that if there be imported into the United States, crude petroleum, or the products of crude petroleum produced in any country which imposes a duty on petroleum or its products exported from the United States, there shall in such cases be levied, paid, and collected a duty upon said crude petroleum or its products so imported equal to the duty imposed by such country.

Orange and lemon peel, not preserved, candied, or dried; orchid or orchil liquid; ores of

gold, silver, copper, or nickel, and nickel matte; sweepings of gold and silver; osmium.

Palladium, paper stock, crude, of every description, including all grasses, fibers, rags (other than wool), waste, including jute waste, shavings, clippings, old paper, rope ends, waste rope and waste bagging, including old gunny cloth and old gunny bags, fit only to be converted into paper.

Paraffin; parchment and vellum; pearl, mother of, and shells, not sawed, cut, polished, or otherwise manufactured, or advanced in value from the natural state.

Personal effects, not merchandise, of citizens of the United States, dying in foreign countries; pewter and britannia metal, old, and fit only to be remanufactured.

Philosophical and scientific apparatus, utensils, instruments and preparations, including bottles and boxes containing the same, specially imported in good faith for the use and by the order of any society or institution incorporated or established solely for religious, philosophical, educational, scientific, or literary purposes, or for the encouragement of the fine arts, or for the use or by the order of any college, academy, school, or seminary of learning in the United States, or any State or public library, and not for sale.

Phosphates, crude; plants, trees, shrubs, roots, seed canes, and seeds imported by the Department of Agriculture or the United States Botanic Garden.

Platina, in ingots, bars, sheets, and wire; platinum, unmanufactured, and vases, retorts, and other apparatus, vessels, and parts thereof composed of platinum, for chemical uses; plumbago; potash, crude or "black salts"; carbonate of potash, crude or refined; hydrate of, or caustic potash, not including refined in sticks or rolls; nitrate of potash or saltpeter, crude; sulphate of potash, crude or refined, and muriate of potash.

Professional books, implements, instruments, and tools of trade, occupation, or employment, in the actual possession at the time of persons emigrating to the United States; but this exemption shall not be construed to include machinery or other articles imported for use in any manufacturing establishment, or for any other person or persons, or for sale, nor shall it be construed to include theatrical scenery, properties, and

apparel; but such articles brought by proprietors or managers of theatrical exhibitions arriving from abroad, for temporary use by them in such exhibitions, and not for any other person, and not for sale, and which have been used by them abroad, shall be admitted free of duty.

Pulu; quinia, sulphate of, and all alkaloids or salts of cinchona bark; rags not otherwise provided for.

Regalia and gems, statuary and specimens or casts of sculpture, imported in good faith for use of scientific and literary societies and educational organizations; and by order of any society incorporated and established solely for religious, philosophical, educational, scientific, or literary purposes, or for the encouragement of the fine arts, or for the use and by order of any college, academy, school, or seminary of learning in the United States, or any State or public library, and not for sale; but the term "regalia" as herein used shall be held to embrace only such insignia of rank or office or emblems as may be worn upon the person or borne in the hand during public exercises of the society or institution, and shall not include articles of furniture or fixtures, or of regular wearing apparel, nor personal property of individuals.

Rennets, raw or prepared; saffron and safflower, and extracts of, and saffron cake; sago, crude; salacin; salep; sausages, bologna; seeds—*anise*, *caraway*, *cardamon*, *cauliflower*, *coriander*, *cotton*, *cummin*, *fennel*, *fenugreek*, *hemp*, *horehound*, *mangel wurzel*, *mustard*, *rape*, *St. John's bread* or *bean*, *sugar beet*, *sorghum* or *sugar cane* for seed; bulbs and bulbous roots, not edible and not otherwise provided for; all flower and grass seeds; all the foregoing not specially provided for in this act.

Sheep dip, not including compounds or preparations that can be used for other purposes; shotgun barrels in single tubes, forged, rough bored; shrimps and other shell fish; silk, raw, or as reeled from the cocoon, but not doubled, twisted, or advanced in manufacture in any way; silk cocoons and silk waste; silkworms' eggs; skeletons and other preparations of anatomy; skins of all kinds, raw (except sheepskins with the wool on), and hides not specially provided for in this act; soda, nitrate of, or cubic nitrate.

Specimens of natural history, botany, and

mineralogy, when imported for scientific public collections, and not for sale.

Spices—Cassia, cassia vera, and cassia buds; cinnamon and chips of; cloves and clove stems; mace; nutmegs; pepper, black or white, and pimento; all the foregoing when unground; ginger root, unground and not preserved or candied.

Spunk; spurs and stilts used in the manufacture of earthenware, porcelain and stoneware; stamps; foreign postage or revenue stamps, canceled or uncanceled; stone and sand; burrstone in blocks, rough or unmanufactured; cliff stone, unmanufactured; rotten stone, tripoli, and sand, crude or manufactured, not otherwise provided for in this act; storax, orstyrax; strontia, oxide of and protoxide of strontian, and strontianite, or mineral carbonate of strontia; sulphur, lac or precipitated, and sulphur or brimstone crude in bulk; sulphur ore as pyrites, or sulphuret of iron in its natural state, containing in excess of 25 per centum of sulphur, and sulphur not otherwise provided for.

Sulphuric acid which at the temperature of 60 degrees Fahrenheit does not exceed the specific gravity of one and three hundred and eighty thousandths, for use in manufacturing superphosphate of lime or artificial manures of any kind, or for any agricultural purposes; provided that upon all sulphuric acid imported from any country, whether independent or a dependency, which imposes a duty upon sulphuric acid imported into such country from the United States there shall be levied and collected a duty of one-fourth of one cent per pound.

Tamarinds, tapioca, cassava, or cassady; tar and pitch of wood; tea and tea plants; teeth natural or unmanufactured; terra alba not made from gypsum or plaster rock; terra japonica; tin ore, cassiterite or black oxide of tin, and tin in bars, blocks, pigs, or grain or granulated; tobacco stems; tonquin, tonqua, or tonka beans; turmeric; turpentine, Venice; turpentine, spirits of; turtles; types, old, and fit only to be remanufactured; uranium, oxide and salts of; vaccine virus; valonia; verdigris, or subacetate of copper; wax, vegetable or mineral; wafers, unleavened or unedible.

Wearing apparel, articles of personal adornment, toilet articles, and similar personal effects of persons arriving in the United States; but this exemption shall only include such articles

as actually accompany and are in the use of and as are necessary and appropriate for the wear and use of such persons for the immediate purposes of the journey and present comfort and convenience, and shall not be held to apply to merchandise or articles intended for other persons or for sale: Provided, that in case of residents of the United States returning from abroad all wearing apparel and other personal effects taken by them out of the United States to foreign countries shall be admitted free of duty, without regard to their value, upon their identity being established, under appropriate rules and regulations to be prescribed by the Secretary of the Treasury, but no more than \$100 in value of articles purchased abroad by such residents of the United States shall be admitted free of duty upon their return.

Whalebone, unmanufactured.

Wood—Logs and round unmanufactured timber, including pulp wood, firewood, handle bolts, shingle bolts, gun blocks for gun stocks, rough hewn or sawed, or planed on one side, hop poles, ship timber and ship planking; all the foregoing not specially provided for in this act.

Woods—Cedar, lignum vitae, lancewood, ebony, box, granadilla, mahogany, rosewood, satinwood, and all forms of cabinet woods, in the log, rough, or hewn only; brier root or brier wood and similar wood unmanufactured, or not further advanced than cut into blocks suitable for the articles into which they are intended to be converted; bamboo, rattan, reeds unmanufactured, India malacca joints, and sticks of partridge, hair wood, pimento, orange, myrtle, and other woods not specially provided for in this act, in the rough, or not further advanced that are cut into lengths suitable for sticks for umbrellas, parasols, sunshades, whips, fishing rods, or walking sticks.

Works of art, drawings, engravings, photographic pictures and philosophical and scientific apparatus brought by professional artists, lecturers, or scientists arriving from abroad for use of them temporarily for exhibition and in illustration, promotion, and encouragement of art, science, or industry in the United States, and not for sale, shall be admitted free of duty.

Works of art, collections in illustration of the progress of the arts, sciences, or manufactures, photographs, works in terra cotta, parian, pottery, or porcelain, antiquities, and

artistic copies thereof in metal or other material, imported in good faith for exhibition at a fixed place by any State or by any society or institution established for the encouragement of the arts, sciences, or education, or for a municipal corporation and all like articles imported in good faith by any society or association, or for a municipal corporation, for the purpose of erecting a public monument, and not intended for sale nor for any other purpose than herein expressed.

Works of art, the production of American artists residing temporarily abroad, or other works of art, including pictorial paintings on glass, imported expressly for presentation to a national institution, or to any State or municipal corporation, or incorporated religious society, college, or other public institution, except stained or painted window glass or stained or painted glass windows.

Yams: zaffer.

The administrative features of the bill remain substantially the same as in the Wilson law.

Reciprocity Provisions of the Bill.

These are the reciprocity provisions of the tariff bill, as reported by the conferees, and as they will be in the new law:

That for the purpose of equalizing the trade of the United States with foreign countries and their colonies, producing and exporting to this country the following articles: Argols, or crude tartar, or wine lees, crude; brandies or other spirits manufactured or distilled from grain or other materials; champagne and all other sparkling wines, still wines, and vermouth; paintings and statuary, or any of them, the President be, and he is hereby, authorized, as soon as may be after the passage of this act, and from time to time thereafter, to enter into negotiations with the governments of those countries exporting to the United States the above mentioned articles, or any of them, with a view to the arrangement of commercial agreements in which reciprocal and equivalent concessions may be secured in favor of the products and manufactures of the United States; and whenever the government of any country or colony producing and exporting to the United States the above mentioned articles, or any of them, shall enter into a commercial agreement with

the United States, or make concessions in favor of the products or manufactures thereof, which in the judgment of the President, shall be reciprocal and equivalent, he shall be, and he is hereby, authorized and empowered to suspend during the time of such agreement or concession, by proclamation to that effect, the imposition and collection of the duties mentioned in this act on such article or articles so exported to the United States from such country or colony, and thereupon and thereafter the duties levied, collected, and paid upon such article or articles shall be as follows—Namely:

Argols, or crude tartar, or wine lees, crude, 5 per centum ad valorem.

Brandies, or other spirits, manufactured or distilled from grain or other materials, \$1.75 per proof gallon.

Champagne and all other sparkling wines, in bottles containing not more than one quart and more than one pint, \$6 per dozen; containing not more than one pint each and more than one-half pint, \$3 per dozen; containing one-half pint each or less, \$1.50 per dozen; in bottles or other vessels, containing more than one quart each, in addition to \$6 per dozen bottles, on the quantities in excess of one quart at the rate of \$1.90 per gallon.

Still wines and vermouth in casks, 35 cents per gallon; in bottles or in jugs, per case of one dozen bottles or jugs, containing each not more than one quart and more than one pint, or twenty-four bottles or jugs, containing each not more than one pint, \$1.25 per case; and any excess beyond these quantities found in such bottles or jugs shall be subject to a duty of 4 cents per pint or fractional part thereof, but no separate or additional duty shall be assessed upon the bottles or jugs.

Paintings in oil or water colors, pastels, pen and ink drawings and statuary, 15 per centum ad valorem.

The President shall have power, and it shall be his duty, whenever he shall be satisfied that any such agreement in this section mentioned is not being fully executed by the government with which it shall have been made, to revoke such suspension and notify such government thereof.

And it is further provided that, with a view to secure reciprocal trade with countries producing the following articles, whenever and so

often as the President shall be satisfied that the government of any country or colony of such government producing and exporting directly or indirectly to the United States coffee, tea, and tonquin, tonqua or tonka beans and vanilla beans, or any of such articles, imposes duties or other exactions upon the agricultural, manufactured, or other products of the United States, which in view of the introduction of such coffee, tea, and tonquin, tonqua, or tonka beans and vanilla beans, into the United States, as in this act hereinbefore provided for, he may deem to be reciprocally unequal and unreasonable, he shall have the power, and it shall be his duty, to suspend, by proclamation to that effect, the provisions of this act relating to the free introduction of such coffee, tea, and tonquin, tonqua, or tonka beans and vanilla beans of the products of such country or colony, for such time as he shall deem just: and in such case and during such suspension, duties shall be levied, collected and paid upon coffee, tea, and tonquin, tonqua, or tonka beans and vanilla beans, the products or exports, direct or indirect, from such designated country as follows:

On coffee, 3 cents per pound.

On tea, 10 cents per pound.

On tonquin, tonqua, or tonka beans, 50 cents per pound; vanilla beans, \$2 per pound; vanilla beans, commercially known as cuts, \$1 per lb.

That whenever the President of the United States, by and with the advice and consent of the Senate, with a view to secure reciprocal trade with foreign countries, shall, within the period of two years from and after the passage of this act, enter into commercial treaty or treaties with any country or countries concerning the admission into any such country or countries of goods, wares, and merchandise of the United States, and their use and disposition therein deemed for the interest of the United States, and in such treaty or treaties, in consideration of the advantages accruing to the United States therefrom, shall provide for the reduction during the specified period, not exceeding five years, of the duties imposed by this act, to the extent of not more than 20 per centum thereof, upon such goods, wares, or merchandise as may be designated therein of the country or countries with which such treaty or treaties shall be made as in this section provided for; or shall provide for the transfer

during such period from the dutiable list of this act to the free list thereof, such goods, wares, and merchandise being the natural products of such foreign country or countries, and not of the United States; or shall provide for the retention on the free list of this act during a specified period, not exceeding five years, of such goods, wares, and merchandise now included in said free list as may be designated therein; and when any such treaty shall have been duly ratified by the Senate and approved by Congress, and public proclamation made accordingly, then and thereafter the duties which shall be collected by the United States upon any of the designated goods, wares, and merchandise from the foreign country with which such treaty has been made shall, during the period provided for, be the duties specified and provided for in such treaty, and none other.

TARIFF FOR CUBA.

Customs Schedule Which Went Into Effect January 1, 1899—Goods Necessary for the Education and Uplifting of the People to Be Admitted Free.

An executive order establishing a customs tariff for the Island of Cuba, to go into effect January 1, 1899, was signed by the President December 13, 1898.

The undermentioned articles may be imported into Cuba exempt from the duties stipulated in the tariffs on compliance with the prescribed conditions and the formalities established for every case in the customs ordinances:

Manures, natural. Trees, plants and moss, in a natural or fresh state.

For Public Entertainment.

Carriages, trained animals, portable theaters, panoramas, wax figures, and other similar objects for public entertainment, imported temporarily, provided bond be given.

Receptacles exported from Cuba, with fruits, sugar, honey and brandy, and reimported empty, including receptacles of galvanized iron intended for the exportation of alcohol.

Specimens and collections of mineralogy, botany and zoology; also small models for public museums, schools, academies and scientific and artistic corporations, on proof of their destination.

Used furniture of persons coming to settle in the island.

Supplies of felt, wall paper and tissues, when they comply with the following conditions: (a) When they do not exceed forty centimeters in length, measured in the warp or length of the piece, even when such samples have the entire width of the piece. The width shall, for tissues, be determined by the list, and for felts and wall paper by the narrow border which has not passed through the press. (b) Samples not having these indications shall only be admitted free of duty when they do not exceed forty centimeters in any dimension. (c) In order to avoid abuse, the samples declared for free entry must have cuts at every twenty centimeters of their width, so as to render them unfit for any other purpose.

Samples of Trimmings.

Samples of trimmings in small pieces, of no commercial value or possible application.

Archaeological and numismatical objects for public museums, academies and scientific and artistic corporations, on proof of their destination.

Works of fine art acquired by the government, academies or other official corporations, and intended for museums, galleries or art schools, when due proof is given as to their destination.

Gold in bars, powder or coined, also national silver or bronze coins.

Wearing apparel, toilet objects and articles for personal use, bed and table linen, books, portable tools and instruments, theatrical costumes, jewels and table services bearing evident trace of having been used, imported by travelers in their luggage in quantities proportionate to their class, profession and position.

When travelers do not bring their baggage with them, the clearing of the same may be made by the conductor or persons authorized for the purpose, provided they prove, to the satisfaction of the customs, that the effects are intended for private use.

Stone, unwrought, for paving purposes. Plows, hoes, hatchets, machetes, cane knives, etc., for agricultural purposes, and other agricultural implements not machinery.

Quinine and Alkaloids.

Quinine, sulphate and bisulphate of, and all alkaloids or salts of cinchona bark.

Hemp, flax and ramie, raw, hackled or tow.

Abaca, heniquen, pita, jute and other vegetable fibers, raw, hackled or tow.

Spun jute, for the manufacture of sugar bags.

Books, maps and scientific instruments for the use of schools.

Coal and coke.

Mineral, carbonated or seltzer waters, root beer, ginger ale, and other similar non-alcoholic beverages not otherwise provided for.

Following are the export rates of duty :

Tobacco—Cigarettes in boxes, per 1,000, 90 cents. Should wrapper and filler leaves be exported in the same package, bale or bundle, the export duty leviable on wrapper tobacco shall be collected when the weight of the latter exceeds 10 per cent. of the total weight. Tobacco, cut, 100 kilos, \$3.75 ; other, \$6.30. Cigars,

per 1,000, \$1.35. In the leaf, or filled tobacco, harvested in the Province of Santiago de Cuba and exported through the custom-houses of Santiago, Gibara or Manzanillo, 100 kilos, \$2.20. Tobacco in the leaf for cigar wrappers shall be liable to the duty leviable on tobacco in the leaf, with a surtax of 100 per cent.

General Food Products.

Following are the duties on alimentary substances (where articles are sold by weight, net weight of 100 kilograms is to be understood except when otherwise indicated or by G. W., gross weight): Poultry and small game, live or dead, per kilo, 8 cents. Beef, brine or salt, \$2.80. Pork, brine or salt, \$2.80. Lard, \$2.80. Tallow, \$2. Bacon, \$4. Ham, \$5.50. Jerked beef, \$3.96. Beef, canned, \$5; beef, fresh, \$4.50. Mutton, fresh, \$4.50. Pork, fresh, \$4. Butter, \$7. Cheese, \$5. Condensed milk, 10 per cent. ad valorem. Salt cod and stock fish, 100 kilos, \$2. Herring, pickled, \$1. Mackerel, pickled, \$2. Salmon, canned, \$5. Eggs, \$5.

Cereals—Rice, husked or not, \$1. Wheat, 60c. Corn, 30c. Potatoes, 50c. Rye, 40c. Barley, 50c. Oats, 40c. Wheat flour, \$1.50; rice flour, \$2; corn flour, 50c.; oat flour, \$1.20. Beans, \$1.10.

Apparatus and Machines—Machinery and apparatus for making sugar and brandy, G. W., 100 kilos, 10 per cent. ad valorem. Agricultural machinery and apparatus, G. W., 10 per cent. ad valorem. Steam motors, stationary, G. W., 20 per cent. ad valorem. Marine engines, steam pumps, hydraulic, petroleum, gas or hot or compressed air motors, G. W. 20 per cent. ad valorem. Sheet iron boilers, G. W., 20 per cent. ad valorem. Tubular boilers, G. W., 20 per cent. ad valorem.

Domestic Animals, Petroleum, Etc.

Animals—Horses and mares above the standard height, \$10; all others, \$5. Mules, \$5. Asses, \$5. Oxen, \$1. Cows, \$1. Bullocks, calves and heifers, \$1. Pigs, \$1. Sheep, goats and animals not specially mentioned, \$1.

Petroleum and other mineral oils, refined, etc., 100 kilos, G. W., \$4 70. Crude petroleum, to be used exclusively in the manufacture of illuminating gas in Cuba, 100 kilos, 70c. A product of petroleum known as cordage oil, 100 kilos, \$2.35.

Artificial or chemical fertilizers, 100 kilos, 5c.

Bricks of clay, not glazed, for building purposes, furnaces, etc., articles of fire clay, G. W., 100 kilos, 30c. Roofing tiles of clay, not glazed, per square (10 by 10 feet), \$1.50.

Tissues of hemp, linen, ramie, jute or other vegetable fibers, not specially mentioned, plain, twilled or damasked, weighing 35 kilos or more per 100 square meters, unbleached, half-bleached or dyed in the piece, having: Up to 5 threads, including sugar bags, 100 kilos, \$2; from 6 to 8 threads, kilo, 5c.; 9 threads or more, kilo, 8c.

Books, bound or unbound, and other printed matter, 100 kilos, \$7 25.

Pianos, each, 40 per cent. ad valorem.

Watches and clocks, each, 40 per cent. ad valorem.

Sewing machines, G. W., 100 kilos, 20 per cent. ad valorem.

Wagons and carts, 40 per cent. ad valorem.

Wines and Liquors.

Alcohol and brandy (hecto), \$5. Liquors, cognac and other compound spirits, in flasks (hecto), \$10; in bottles or flasks, \$15. Whiskies, in casks (hecto), \$5. Sparkling wines (liter), 10c. Malt liquor, in casks (hecto), \$1.63; in bottles, \$1.83.

Coffee, in the bean or ground, 100 kilos, \$12.15. Cocoa, 100 kilos, \$20.25.

Tobacco, in cakes, so-called "brevé," or in carrots, 100 kilos, \$10.50; in powder or snuff, per pound, 12c. Leaf tobacco, stemmed or unstemmed, whether wrapper or filler, per pound, \$5. Cigars, cigarettes, cheroots of all kinds, per pound, \$4.50 and 25 per cent. ad valorem. Paper cigars, cigarettes, \$4.50 and 25 per cent. ad valorem.

Cotton—Unbleached, half-bleached or dyed in the piece (kilo), 8c. Bleached, printed or manufactured, with dyed yarns (kilo), 20c. Undershirts and drawers of simple finish or rough sewing (kilo), 70c. Undershirts and drawers of double sewing or fine finish (kilo), 80c. Stockings, socks, gloves and other small articles of simple finish or rough sewing, per kilo, 70 cents. Stockings, socks, gloves and other small articles, of double sewing or fine finish, per kilo, 90c.

Reduction from Old Rates.

The following table shows the average per cent. of reduction in the several classes between the old Spanish rate and the rate originally adopted by the United States for all imports:

Class I., stones, earths, ores, etc.....	64.1
Class II., metals, etc.....	62.1
Class III., pharmacy and chemicals, substances of.....	58.1
Class IV., cotton, etc.....	63.7
Class V., hemp, flax, etc.....	62.5
Class VI., wool, etc.....	70.4
Class VII., silk, etc.....	59.0
Class VIII., paper, etc.....	76.9
Class IX., woods, etc.....	63.1
Class X., animals, etc.....	61.8
Class XI., instruments, machinery, etc.....	60.6
Class XII., meat, fish, butter and greases.....	61.5
Class XIII., miscellaneous.....	61.8
General average, all classes.....	62.0

Acting Secretary Meiklejohn, of the War Department, issued an order December 17, by direction of the President, designating Trinidad, Santa Cruz and Batabano as sub-ports of entry in the Island of Cuba, in addition to those indicated in the order of September 13 last. An army officer will be assigned to each of these sub-ports, who will be the collector of customs and have jurisdiction of the collection of customs.

Customs Ports.

1. The port of Habana has been duly designated as the chief customs port of Cuba, and the following have been declared to be subports, viz: Matanzas, Cardenas, Cienfuegos, Sagua, Caibarien, Santiago, Manzanillo, Neuvas, Guantanamo, Gibara, Baracoa, Trinidad, Santa Cruz, Zaza, and Batabano, in the island of Cuba, and the officer of the Army duly assigned to each of said ports as collector, will have general jurisdiction of the collection of customs at such ports respectively. Every collector stationed at a subport will make weekly reports to the collector at Habana of all transactions at his subport, with copies of all entries of merchandise duly certified, and all moneys collected at subports must be deposited with the duly designated officer, whose receipt therefor must be taken in duplicate. Any questions arising at any subport will be referred to the collector at Habana for his decision, from which there shall be no appeal, except in such cases as he may refer for decision to the Secretary of War.

Entrance and Clearance of Vessels.

2. Every vessel shall, on arrival, be placed under customs control until duly discharged. Passengers with no dutiable property in their possession may be permitted to land without detention.

If, upon the unloading of any cargo, there shall be found goods, wares, or merchandise not duly declared on the manifest, such articles in excess shall be required to pay additional duties of 25 per cent. on the regular duties. Should any packages or articles named on the manifest be missing on the arrival of the vessel, the latter shall pay a penalty of \$1.00 per ton measurement, unless such deficiency shall be satisfactorily explained or accounted for.

CHRONOLOGY of the SPANISH-AMERICAN WAR.

Feb. 15—Maine blown up in Havana harbor; 266 killed.

March 13—Senator Proctor tells of Cuban horrors.

March 25—Official report says a mine destroyed the Maine.

April 4—McKinley declines Pope's intervention.

April 9—General Lee and Americans leave Havana.

April 19—Congress recognizes independence of Cuba.

April 21—American minister in Madrid dismissed; ultimatum not presented.

April 22—North Atlantic Squadron leaves Key West.

April 23—President issues call for 125,000 volunteers.

April 24—Asiatic Squadron sails for the Philippines.

April 24—Spain declares war.

April 25—Congress declares war has existed since April 21.

April 27—Batteries at Matanzas bombarded.

April 29—Batteries at Cienfuegos bombarded.

April 30—Batteries at Cabanas bombarded.

May 1—Spanish fleet at Manila destroyed.

May 7—Matanzas forts shelled.

May 9—Fight off Cardenas between Winslow and three Spanish gunboats.

May 11—Attack on Cienfuegos.

May 12—San Juan de Porto Rico bombarded.

May 12—Cardenas shelled.

May 13—Flying Squadron leaves Hampton Roads.

May 18—Flying Squadron reaches Key West.

May 18—New Spanish cabinet under Sagasta.

May 19—Cervera's Squadron in Santiago harbor.

May 25—President issues second call, for 75,000 volunteers.

May 25—First Manila expedition leaves.

May 31—Santiago forts bombarded.

June 3—Collier Merrimac sunk.

June 6—Bombardment of Santiago forts.

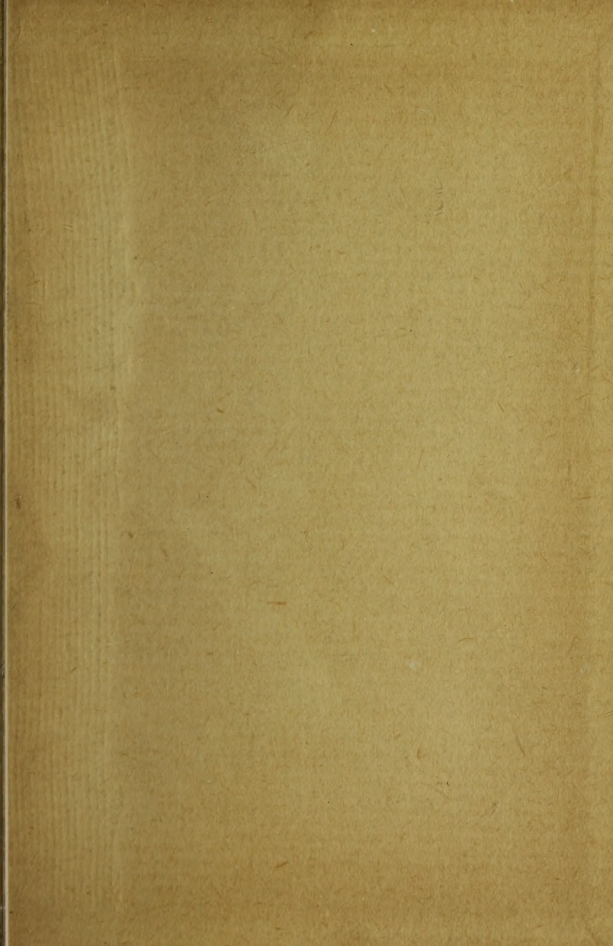
June 8—Shafter's force leaves Tampa.

June 8—Calmanera bombarded.

- June 10—Marines land at Guantanamo.**
- June 11—Fight at Guantanamo; Spaniards repulsed.**
- June 14—Army sails from Tampa.**
- June 15—Second Manila expedition sails.**
- June 15—Spanish defeat at Guantanamo.**
- June 16—Fort Caimanera demolished.**
- June 16—Bombardment of Santiago forts.**
- June 20—Shafter's army arrives at Baiquiri.**
- June 21—The "Charleston" captures the Ladrones.**
- June 22 and 23—Shafter's army lands.**
- June 24—Juragua captured.**
- June 24—Fight at La Quasina; Spaniards repulsed.**
- June 26—Cadiz fleet at Port Said.**
- June 26—Shafter occupies Sevilla.**
- June 28—Third Manila expedition sails.**
- June 29—First expedition arrives at Manila.**
- June 30—El Caney evacuated by Spaniards.**
- July 1—Outer defenses of Santiago taken.**
- July 2—San Juan, near Santiago, taken.**
- July 3—Shafter demands surrender of Santiago.**
- July 3—Cervera's fleet destroyed.**
- July 5—Camara's fleet at Suez.**
- July 6—Spanish cruiser Alfonso XII. destroyed.**
- July 7—Dewey captures Isla Grande and 1,300 prisoners.**
- July 8—Camara's fleet ordered to return to Spain.**
- July 10—Bombardment of Santiago resumed; Linares refuses to make an unconditional surrender.**
- July 13—Truce.**
- July 14—Santiago surrenders.**
- July 16—General Shafter announces terms of General Toral's surrender.**
- July 17—American flag is raised over Santiago de Cuba, and General McKibbin made military governor.**
- July 18—War council orders invasion of Porto Rico; Manzanillo bombarded.**
- July 20—Spanish cabinet reported as agreed to ask for peace.**

- July 21**—General Garcia withdraws his army from Shafter's support.
- July 22**—General Miles sails for Porto Rico with an advance guard: American lines close about Manila: General Wood is appointed governor of Santiago.
- July 23**—Spaniards continue to surrender; Topeka captures Port Nipe.
- July 24**—Shafter reported active; Emperor Wilhelm said to have asked our intentions in the East.
- July 25**—General Miles lands at Guanica, Porto Rico.
- July 26**—Spain formally sues for peace through the French Ambassador.
- August 12**—Peace protocol signed at 4:23 p. m. by Secretary of State Day for the United States, and French Ambassador Cambon for the Spanish government.
- August 13**—Admiral Dewey and General Merritt assault and capture Manila.
- Sept. 9**—U. S. Peace Commission appointed.
- Sept. 17**—U. S. Peace Commission sailed for Paris.
- Sept. 18**—Spain appointed Peace Commission.
- Oct. 1**—Joint Peace Commission meet at Paris.
- Dec. 10**—Peace Treaty was signed at Paris.





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